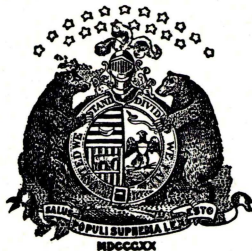


MISSOURI
STATE BOARD OF HEALTH



QUARTERLY BULLETIN

NEW SERIES

VOL. 6 JANUARY-MARCH, 1916 No. 1

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BULLETIN OF THE
Missouri State Board of Health
NEW SERIES

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NO. 1

LITTLE ODD ITEMS.

Be good to the new-born child. Send birth certificate to your local registrar within ten days after birth. It may prove its right to heir in some estate—it may prove he is of voting age—it may prove that she is under age of consent. Stand by the infant; report all births; and some day, some time, some child will be made very happy by your timely report.

* * * * *

It does not concern us so much about the things that God ordained from eternity as it does to get a wiggle on and obey his laws of cleanliness, virtue and honesty if we wish to be healthful and respected by our neighbors.

“Clean Up Day” is every day.

* * * * *

Doctors, midwives and undertakers—birth and death certificates should be made out very carefully. Any requirements in the blank certificate upon which you cannot give information, write “Unknown.” Certified copies of these certificates are sent out from this office every day to establish some facts contained therein, as they are accepted in our courts as evidence of facts. More than 200 certified copies were sent out during the month of March. Do not neglect your part in this work.

* * * * *

The very best doctors obey the laws of their state, though they may not approve the entire code. Send in to your local registrar your birth certificates within ten days after the birth of the child and thereby perfect this important branch of the Vital Statistics Bureau.

John, age six years—"Grandpa, what would be a good name for my first boy? I am going to name the girl Mary."

* * * * *

"Cleanliness is next to Godliness." Our numerous candidates for Governor are now busy cleaning the other fellow. So our nominee will surely be clean, upright and Godlike; and the gates of hell cannot prevail against him on November election day.

* * * * *

Pure food, pure water and pure air are essential to good health. So virtuous women and clean men are essential to good government.

* * * * *

Flies are dangerous. They carry germs that make people sick and kill people. So fly in and keep your yard and everything around you clean. Where there is *no* filth there are no flies.

* * * * *

Doctor A. "This is to notify you that you have written more prescriptions for intoxicants in the past three months than you should"—

Doctor S. "You say in your notice to me that I have *writ ten* more prescriptions than I should. How many prescriptions for whiskey can I write each month, anyway?"

* * * * *

Examination question:

What is suggestive therapeutics?

Answer:

It's what a fellow suggests to the doctor when he wants whiskey.

* * * * *

ALCOHOL AND PNEUMONIA.

The United States Public Health Service brands strong drink as the most efficient ally of pneumonia. It declares that alcohol is the handmaiden of the disease which produces ten per cent of the deaths in the United States. This is no exaggeration. We have known for a long time that indulgence in alcoholic liquors lowers the individual vitality, and that the man who drinks is peculiarly susceptible to pneumonia. The United States Public Health Service is a conservative body. It does

not engage in alarmist propaganda. In following out the line of its official duties it has brought forcefully to the general public a fact which will bear endless repetition. The liberal and continuous user of alcoholic drinks will do well to heed this warning, particularly at this season of the year when the gruesome death toll from pneumonia is being doubled.

* * * * *

Walking is the best exercise—and the cheapest.

* * * * *

A little cough is frequently the warning signal of tuberculosis.

* * * * *

Bad teeth and bad tonsils may be the cause of rheumatism.

* * * * *

Unpasteurized milk frequently spreads disease.


* * * * *

Moderation in all things prolongs life.

* * * * *

The careless spitter is a public danger.

* * * * *

*  There is no Federal institution in the Continental United States for the reception and care of lepers.

* * * * *

Plague is a disease of rodents.

* * * * *

Malaria is spread by a special mosquito.

* * * * *

Fingers, flies and food spread typhoid fever.

* * * * *

Pellagra may be prevented or cured by proper diet.

* * * * *

The United States Public Health Service believes that the common towel spreads trachoma, a dangerous disease of the eyes.

The following persons have been licensed to practice medicine and surgery in the State of Missouri from January 1st to date:

Barnes, John Nelson	Nyquist, David Munson
Brown, Damon Alonzo	Phillips, Myrtle H.
Chee, George Lew	Richardson, Reginald Granville
Edwards, Alfred	Shattinger, Charles
Edmundson, John Phillips	Tarson, Solomon S.
Friedstein, Hugo	Thomas, Forrest
Luster, Robert Dayton	Twyman, George Thomas
Machado, R. Abren	Veach, Earl Allen
Noll, Edwin Adelbert	Vizgird, Joseph John

The issuing of licenses to the following doctors by the Secretary was approved by the Board:

Cluthe, Walter J., Indiana
 Coffin, L. A., Iowa
 Burdick, J. R., Michigan
 Ford, C. W., Nebraska
 Huston, R. R., Illinois
 Inge, Claude W., Tennessee
 Myers, W. A., Illinois
 Olsen, John, Illinois
 Owen, A. H., Oklahoma
 Salzberg, B. A., Illinois
 Smith, Clinton K., Colorado

Drs. J. H. and U. S. G. Hughes' cases were heard in Kansas City April 13, 14 and 15, and the hearing continued to Jefferson City, to be concluded on the 24th of April after giving the intervening time for depositions to be gotten in rebuttal and refutation of testimony heard in Kansas City and presentation of briefs of counsel. After meeting in Jefferson City, on April 24th, and reviewing the testimony, the Board revoked the licenses of the above named doctors for twenty years, each one receiving the same number of years revocation.

They were found guilty of prescribing and giving out large quantities of morphine, cocaine, heroin and opium to their various patrons, composed of persons who were addicted to the use of these drugs, claiming that they were giving them the

reduction treatment for the drug habit by putting large quantities of the drug in their hands and advising them to use less of the drug each day, in this way tapering off until cured of the habit; or after they had in this way conquered their habit to a great extent they would be given the Lambert-Townsend treatment.

TUBERCULOUS DAIRY CATTLE A MENACE TO PUBLIC HEALTH.

The following address, by Dr. E. G. Birge, Assistant Bacteriologist in the Tampa laboratory of the State Board of Health, which was recently delivered before the dairymen of Tampa, at the request of Mr. R. I. Gordon, Chief of the Pure Food Department of that city, summarizes briefly and clearly the facts concerning bovine tuberculosis and its relation to the causation and spread of the human type of this disease.

Gentlemen:

When I was asked to talk to you about tuberculosis in cattle, there was a question in my mind whether to talk on strictly the dairymen's side of the question, that is, the economic point of view, or to take the side in which I am particularly interested, that is, the relation of bovine tuberculosis to public health. Inasmuch as there will be other speakers today that will take up the question from the economic point of view, I wish to confine myself to the public health side of the matter.

There has been a controversy concerning the danger of tubercular cattle to public health. It has been stated that all human tuberculosis comes from bovine origin. In 1901 Robert Koch stated that in his opinion human tuberculosis and bovine tuberculosis were separate diseases, and that human beings were not infected by the bovine type of the tubercle bacillus. That statement started an enormous amount of investigative work, and in 1908 the International Congress on Tuberculosis at Washington expressed the opinion that bovine tuberculosis was a great and real menace to the public health. This opinion was based on seven years' study by the best workers all over the world, and was unanimous. At the present time it is estimated that in the United States there are one million cases of tuberculosis. About seventy thousand of those cases occur in

children under five years of age. Of these seventy thousand, approximately thirty-five thousand are probably due to infection from cattle. These cases can be absolutely prevented by taking proper measures. I lay stress on the infection in children inasmuch as milk forms the largest part of the child's diet, and at this period the human being is more susceptible to infection than at any later period. It must not be thought, however, that the infection confines itself entirely to children, for in our statistics we frequently find cases of bovine tuberculosis among adults.

I wish to impress upon you these facts that I have just stated so that you will realize that our campaign against tuberculosis in cattle is not only for your benefit from the economic standpoint, but for the general benefit of humanity. Now, let us turn to the disease in cattle, and trace out the sources of infection; and I hope that I will make it plain to you that an infected cow in a dairy will sooner or later infect all the other cows; and that every cow with pulmonary tuberculosis, a large number with glandular tuberculosis, and also every cow with tubercular mastitis produces milk infected with the tubercle bacillus.

In pulmonary tuberculosis the cow does not cough up and expectorate the material from the lungs as the human being does, but the material coughed up from the lungs is swallowed and passes from the cow through the intestinal tract, so that the feces of tubercular cows contain the bacilli.

Healthy cattle grazing with tubercular cattle undoubtedly become infected from fodder over which a greater or less amount of fecal material is spread.

During the process of coughing there is a fine spray which emanates from the mouth and carries with it the tubercle bacilli, so that a cow infects her surroundings on which this spray alights, and it can be said that in the stables a cow with pulmonary tuberculosis almost always infects the stall and feed boxes in her immediate vicinity. These tubercle bacilli so spread on the surrounding objects are one source of infection.

Fecal material from the flanks of the cow drops into the milk at milking time as particles of dust, and the milk will be infected with tubercle bacilli. In cases of generalized tuberculosis, glandular tuberculosis, and tubercular mastitis, the bacilli may be in the milk duct, either directly as in the case of tubercular mastitis, or may be carried to the milk ducts through the lymph

and blood channels, and thence to the milk. Tubercle bacilli do not multiply in the milk, but retain their vitality through a long period of time, and when swallowed by a human being under proper conditions can set up tuberculosis in the human subject.

Milk is not the only dangerous dairy product, for tubercle bacilli have been isolated from butter, ice cream and cheese made from tubercular infected milk, so that all dairy products from infected cattle are a menace to those using them.

Now, I wish to take up briefly the means of eradicating the disease among the dairy herds themselves, and the prevention of infection in the human being through dairy products. I can summarize these briefly as follows:

First, the eradication of tuberculosis among the dairy cattle. A dairy for economic reasons should never purchase a cow from a herd that is not tested. It is also unwise to purchase a cow from a herd not tested previous to the purchase, and the cow should not be allowed to mingle with healthy cows before being thoroughly tested for tuberculosis. A tubercular cow, when once found in a herd, should be isolated and should, if possible, be eradicated from that herd at once. It is poor policy to keep a diseased animal, from an economic standpoint, in a herd; and I think that a dairyman who keeps a record of the cost of upkeep and the returns of a cow will find that the cost of upkeep is larger than the returns of that individual. Absolute cleanliness in the stable, care and cleanliness in the disposal of manure, keeping the cows clean are also essential points in the prevention of the spread of the infection.

Now, for the prevention of the production of tubercular milk:

First, sterilization and strict cleanliness of all utensils that receive milk is essential. It is unnecessary to say that only utensils of an approved type should be used.

Second, efficient pasteurization of raw milk will tend to lessen the danger of infection, but I wish to emphasize the word "efficient."

What I have said up to this point is merely a rough outline of the procedures which public health officials desire dairymen to follow, and which we also wish to have the public recognize as being necessary to a safe milk supply, not only concerning tuberculosis, but other diseases which may be transmitted through the milk.

—From "Florida Health Notes."

The Common Washrag More Dangerous Than the Common Towel.

(United States Public Health Service.)

The U. S. Public Health Service and the various state and local boards of health have taken adequate measures for the abolition of that distributor of disease germs, the common towel. Now comes the news that the common washrag is even a greater menace to health. The hotels and public hostelries have recognized this for some time, and have supplied their guests with sterilized wash cloths in individual sealed packets. The damp, "sour" smelling washrag still exists, however, in many private bathrooms. Imperfectly washed out after use, frequently not wrung out at all, it is often hung over a rack or a radiator near an open window, there to collect dust and dirt. Frequently the same washrag is used by the entire family, thus affording an easy means of transference of mouth secretions from person to person. In many households each individual has his own wash cloth and his individual towel, but these hang so close to one another that there is ready interchange of bacteria. Each individual should have his own wash cloth. It should be thoroughly washed out with clean, hot water after use. It should be then wrung as nearly dry as possible, and if possible hung in the sun to dry. It should not come in contact with other wash cloths. In the investigations the U. S. Public Health Service is conducting in regard to the prevalence of trachoma it has been found that common towels probably acted as a medium of distribution of the germ of disease.

Typhoid.

It is believed that more widespread recognition of the benefits conferred by anti-typhoid immunization will have an immediate effect upon the morbidity and mortality rates for the disease. As a result of sanitary measures alone the death rates from typhoid has been cut in half during the last fifteen years; what has been done in fifteen years of sanitation can be accomplished in as many weeks with inoculation. It is conceivable, if immunization attains the general recognition that smallpox pre-

vention has secured, and there is no reason why such acceptance should not be accorded it, that typhoid will be a rare disease by 1930. This means that even many of the older physicians of today will live to see the time when the infection will no longer be common.

One point must be considered in making such a prognostication. As immunity is conferred the necessity for immunization becomes less apparent to the general public, and the method will to a certain extent be neglected. This is the situation as regards smallpox in the country today, and for this very reason the disease will persist until universal immunization is practiced. Therefore, even with perfect methods, the entire elimination of the disease is not to be looked for.

Are You a Federal Employee?

(United States Public Health Service.)

This question can be answered in the affirmative by over 400,000 persons, the largest army of employees which can be mustered in the land. They comprise a most intelligent, efficient, and representative group of citizens, individuals who have attained prominence in their respective communities and who are looked to for advice. Yet for every month of the coming year six of these people will die unnecessarily of a disease which is absolutely preventable. That disease is typhoid fever. The annual toll from this single group of workers will be over seventy lives. Can you afford to take the chance of being one of the seventy? Think it over and decide.

Under order of February 12, 1915, Secretary of the Treasury W. G. McAdoo designated 164 stations of the Public Health Service in the United States where the preventive treatment may be administered. Whether you work in Ketchikan, Sheboygan, or Washington, is immaterial; the treatment is at your call and without cost. The inconvenience is slight, the dangers negligible, and the immunity fairly permanent. Reckoning the period of immunity as four years, and basing the calculation upon what has already been accomplished, compliance with the secretary's offer would result in saving the lives of 300 people and at least ten times that number from periods of invalidism.

The danger season for typhoid is now here. The vacation period is especially apt to bear a definite relation to the develop-

ment of the disease and the days which should be complete with joy and pleasure are marred by disease and death. The means of infection are numerous, and flies, milk, polluted water and contaminated food products are all factors, so that control is difficult to exercise. No matter how faithful and efficient your health officer may be, and regardless of the funds at his disposal, he cannot altogether relieve you of the dangers of the disease. Vaccination will, however, accomplish this.

Already hundreds of Federal employees have availed themselves of this opportunity to be treated. The crews of all lighthouse vessels are now immune, and likewise the civil employees of the Engineering Corps of the Army. Treatment should not be delayed by those who wish to avoid the dangers of the summer season.

Hay-fever Weeds and How They May Be Recognized.

With the approach of early summer, the hay-fever sufferer looks forward with dismay to the beginning of his trials. The efforts which have been inaugurated in many of the states to eradicate or control the hay-fever weeds give promise of the eventful eradication of hay fever, but these measures should be commenced at once in order to be effective.

Fortunately, the weeds that are the most noxious to the hay-fever sufferer are already on the black list of the farmer, and have no redeeming features in color, scent or utility. Their chief characteristics are as follows:

1. They are wind-pollinated.
2. Very numerous.
3. The flowers are inconspicuous, without bright color or pleasant scent.
4. The pollen is found in great quantities.

All hay-fever weeds are wind-pollinated, otherwise their pollen would not be in the air to irritate the nostrils of susceptible persons. Bright colors and sweet scent are intended to attract insects for fertilization, and are therefore absent in hay-fever weeds which are wind-pollinated.

Among the hay-fever weeds which will soon be in flower and distribute their noxious pollen are the yellow dock (*Rumex*

crispus), Careless weed (*Amaranthus spinosus*), Cocklebur (*Xanthium strumarium*), etc. The grasses also are noxious to a certain class of hay-fever sufferers and should not be allowed to bloom unless intended for seed.

Dr. Scheppegrell, president of the American Hay-fever Prevention Association, calls attention to the Daisy fleabane (*Erigeron*) which is beginning to bloom and whose toxicity has recently been established by this Association. Children collect these flowers and in one whiff will inhale sufficient pollen to cause a paroxysm of hay fever lasting three to five days. Such attacks are almost invariably attributed to "colds," the real cause not being suspected. It may, in addition, cause a "sensitization," which will make the child susceptible to hay fever in later years.

From an agricultural standpoint, weeds already cost the farmer millions of dollars annually. When we add to this the economic loss due to hay fever caused by these weeds, several millions may easily be added. The representatives of our agricultural and legislative interests should therefore unite with the health authorities to eradicate the hay-fever weeds, which are alike a nuisance to agriculture and a reproach to preventive medicine.

The Campaign Against Cancer in New England.

The New England states generally show a higher death rate from cancer than any other group of states. This does not mean that New England people are more susceptible to this disease. Cancer is a disease of later adult life and it is well known that in parts of New England there are more old people proportionately to the population than in many other regions. Nevertheless, the death rates recently published by the U. S. Census Bureau have stimulated much activity in these states in the educational campaign for the control of malignant disease.

What are the facts upon which this movement is based? According to the report of the Census Bureau, in 1913 there were 49,928 deaths from cancer in the registration area of the United States, corresponding to a death rate of 78.9 per 100,000 of the population. All the New England states have individual cancer death rates much higher than this. Connecticut's rate,

which was the lowest of any of the New England states, was 85.1. Vermont's rate was the highest with 111.7, while the rates of the other states were correspondingly high, Maine having a rate of 107.5, New Hampshire 104.4, Massachusetts 101.4 and Rhode Island 93.3. When these figures are compared with those of Kentucky, with a rate of 48, they seem indeed very high. They mean that 6,817 people died in 1913 in New England from cancer. But it does not necessarily follow that cancer is more common in New England than elsewhere. The Census Bureau attributes the high cancer death rates in certain districts to the relatively high age distribution of the population and the negligible amount of immigration. Translated into everyday terms this means that in New England the proportion of people over forty years of age, or at the cancer age, to those under forty, and so less liable to cancer, is greater than in other places. Yet there is no doubt that the cancer death rate in New England as well as in other parts of the country is much higher than it ought to be. Without question a large percentage of cancer deaths can be prevented by early recognition of the symptoms and prompt recourse to competent surgical advice and treatment. Cancer is not a hopeless, incurable affection, as so many people wrongly believe. Those who know the facts believe that if the public can be properly educated in regard to the early signs of the disease and will act on this knowledge, the present mortality should be reduced at least half and perhaps two-thirds.

That New England is awake to this opportunity of saving lives is evident from the activity in several states. To protest against taxation without representation the patriots of Massachusetts dumped overboard the famous cargo of tea. Vermont medical men have become so concerned over the high cancer death rate of their state that they are going to hold a "tea-party" of another sort and attempt to dump overboard the high death rate from malignant disease. While their action is not so dramatic as that of the patriot raiders, they hope to prove that through its great ultimate benefit to the community it will be almost as patriotic. The New Hampshire State Board of Health has recently published sound advice in its Bulletin. In Maine an active committee of the State Medical Society is arranging public lectures and causing the publication of instructive articles in the newspapers. Massachusetts has a well organized branch of the American Society for the Control of

Cancer with headquarters in Boston. The Vermont State Medical Society has arranged a series of public meetings to spread the bad news of the high cancer death rate and the good news of the hope of controlling the disease by earlier recognition and prompt surgical treatment. Morning, afternoon and evening meetings will be held on Tuesday, Wednesday, Thursday and Friday, June 8th to 11th, at Rutland, Burlington, Montpelier and St. Johnsbury. The Vermont State Board of Health will send its Secretary, Dr. Charles F. Dalton, to address each of these meetings, and the American Society for the Control of Cancer will be represented by Dr. Francis Carter Wood, Director of Cancer Research at Columbia University, New York City, and by Dr. J. M. Wainwright, Chairman of the Cancer Committee of the Pennsylvania State Medical Society.

Ventilation Screens of Cloth—Fresh Air Without Drafts.

Much is being said and written regarding the necessity of more fresh air, both in the office, in the home and in the school-room.

No one can do a full day's work in a stuffy office or school-room. Neither can one get a comfortable night's rest and sleep in a bedroom that is not properly ventilated. On the other hand, no one desires to work or sleep in front of a window where there is a direct draft.

How, then, are we going to overcome this objection? This matter has been freely discussed by physicians, school teachers and others who are interested in better sanitary methods. Many kinds of ventilators have been used in windows to permit of the entrance of fresh air into the overheated room, but in nearly every case, while permitting the fresh air, it also occasioned drafts which are almost as uncomfortable and injurious as the impure air which they were trying to replace.

Recently an article was published in the Popular Mechanics calling attention to a screen or ventilator made of a specially treated cotton cloth, stating that these have been used in place of glass windows in schoolrooms. The doors and windows are first closed and the room comfortably heated before the pupils arrive. While the school is in session, the windows are thrown wide open and the cloth ventilators are placed under the lower sash. These cloth ventilators are made in several heights and

are made adjustable in width so that they will fit any ordinary window. Cold, fresh air filters in through the cloth from the outside, thus making the room pleasant to work in and invigorating the pupils.

It has the added advantage of keeping out of the room all soot, dust, dirt, rain and snow. The ventilator is covered with a light-colored cotton cloth which admits the light as well as the air, but excludes all dust and dirt.

The simplicity and cheapness of these cotton ventilators makes the plan available, not only for every schoolroom, but for the home, for the office, for institutions, hospitals, etc.

In the home it should be used in the kitchen, living rooms and bedrooms, and is especially desirable where children sleep. The fact that it cannot be seen through makes it particularly valuable for bedrooms and bathrooms.

These cloth ventilators or screens are now being produced at such a low price and there is such a large and growing demand for them that they are being sold now by practically all hardware jobbers, retail dealers and department stores.

REPORT OF STATE BACTERIOLOGIST.

The following table summarizes the work done in the laboratory for the first quarter of 1916:

	Tuberculosis (sputum)	Typhoid.....	Diphtheria.....	Water.....	Gonococcal infections.....	Malaria.....	Rabies.....	Tuberculosis (not sputum)....	Miscellaneous.....	Total.....
January.....	183	42	40	13	7	5	0	6	5	301
February.....	214	37	25	9	7	6	1	6	15	320
March.....	257	57	34	10	14	5	1	7	15	400
Totals.....	654	136	99	32	28	16	2	19	35	1021
Grand total..										

Tuberculosis, per cent positive.....	22.6
Typhoid, per cent positive.....	24.2
Diphtheria, per cent positive.....	27.2

The Examinations Conducted By and Preparation of Specimens for Sending to the Laboratory.

Sputum—Specimens of sputum will be examined only when received in containers furnished by the State Board of Health for that purpose. These outfits may be obtained by addressing the State Bacteriologist, Jefferson City, Missouri. Full directions accompany each outfit.

Blood—It is impossible to examine a single specimen of blood for both typhoid and malaria. For the Widal test for typhoid, the blood is best obtained by pricking the lobe of the ear with a flat or a three-cornered needle, or the point of a knife. The ear should first be rubbed with cotton and alcohol, then dried, and the needle should be sterile. Two or three good-sized drops should be collected on filter paper provided by the laboratory for this purpose.

For malaria the blood is obtained in the same way, but must be spread in a thin, even smear on a glass microscope slide. This is done as follows: A small drop of blood is received onto the slide near one end by touching the slide to the blood as it hangs from the lobe of the ear. The slide is then laid on a

firm, flat surface, and the end of a second slide, held at an angle of about thirty degrees with the first slide and touching it, is brought into contact with the drop of blood. In two or three seconds the blood will have run across the slide at the point of contact. Then the second slide is pushed along on the first with a moderate speed, so as to leave a thin, even smear on the surface of the first slide. A second smear may be made in a similar manner on the other slide. Caution: Have slides perfectly clean, handle only by the edges and work rapidly. Allow them to dry in the air without heat.

Blood should never be placed between slides and sent to the laboratory.

Swabs for Diphtheria—The regulation tube and mailing case, to be obtained from the laboratory, should be used for this purpose. Full directions accompany each outfit.

Water—Specimens of water are examined for the absence or presence of colon bacilli, an index to sewage pollution, and for the total number of bacteria.

For this it is imperative that all samples be iced from the time of taking until they reach the laboratory. For this purpose special containers may be obtained from the laboratory, express charges to be paid both ways by sender of specimens.

Pus—Pus, to be examined for gonococci, should be sent on a slide prepared as follows: A small amount—much less than a drop—should be mixed on the slide with a small drop of water and thinly spread over an area a half inch or more in diameter, and allowed to dry.

In taking a specimen of leucorrheal discharge, the precaution of first giving a douche should always be taken, in order to remove as many as possible of the other bacteria present. The pus may then be expressed from the urethra, or obtained from the cervix by means of a speculum, and the slide properly prepared. Unless this is done, the great numbers of bacteria found normally in the vaginal secretion will so obscure the field as to make a satisfactory examination impossible.

An initial or number may accompany the specimen in place of the patient's name.

Do not press slides together.

Rabies—Unless the animal shows symptoms of rabies, it should not be killed, but should be held for observation, in which event, if positive, death will ensue in a very few days, in ample time to begin treatment of the patient. Do not kill the animal

by a blow or shot in the head, as this may make a proper examination impossible. The head only of the animal should be sent, and that at the earliest possible moment. The head is to be placed in a tin bucket with a tightly fitting cover, which bucket is to be placed in a larger wooden or iron bucket and surrounded by sawdust and iced. The heads of animals freshly killed may be sprinkled with salt, packed in wet sawdust in a strong wooden box and expressed.

Urine—Specimens of urine are examined for tubercle bacilli in suspected cases of genito-urinary tuberculosis.

In sending specimens of urine to be examined for tubercle bacilli, the following points should be carefully noted.

1. The specimen should be obtained by catheter, and drawn directly into a sterile bottle.
2. It should be stated upon the card accompanying the specimen that it was obtained by catheter.
3. Two or four ounces of urine should be sent and no preservative should be used.

Feces—Feces will be examined for tubercle bacilli, and for the ova of intestinal parasites (hookworm).

There is kept on hand a supply of typhoid vaccine for immunization, which is supplied to physicians upon request. When writing for the vaccine, kindly state the number of patients to be immunized, and enclose ten cents in stamps to cover postage.

The anti-rabic treatment as prepared in the laboratories of the American Public Health Service will be administered free of charge to indigent persons of the state, at this laboratory only. The treatment requires twenty-one days, and should be begun within fourteen days from the time the patient was bitten.

When the treatment is desired the State Bacteriologist should be notified by wire at least three days before the patient arrives in Jefferson City, thus allowing ample time to secure the individual treatment from the laboratory at Washington, D. C.

During the quarter six persons were given the anti-rabic treatment at the laboratory. Five of these came from Springfield and one from Joplin, Mo.

The course in all cases was uneventful and complete, making a total of one hundred and fifty separate administrations.

Directions for Collecting Specimens of Water for Bacteriological Examination.

Use a pint bottle which, together with its stopper, has been sterilized by boiling for half an hour.

Caution must be used not to touch with the hand or other object those parts of the bottle or stopper which will come in contact with the water samples. Do not lay stopper down, but retain it between the fingers until filling has been completed; then twist stopper tightly into place and cover with a cap of muslin which should be tied around the neck of bottle.

If taken from well, work pump several minutes before taking sample, or pour into bottle from bucket, and fill bottle about two-thirds full. This should be placed in a tin can or bucket which is securely fastened to the lid of a larger bucket in which should be placed cracked ice, to insure average temperature until it reaches the laboratory.

Take specimens just before train time; send by express, prepaid. Specimens must reach the laboratory before Friday.

VITAL STATISTICS.

Summary Showing Comparison of Important Causes of Death and Registration of Births, during January, February and March, 1916.

Statistics compiled for the first quarter of 1916, January, February and March, show there was a total of 13,124 deaths. Of this number 6,258 were males and 5,875 females; 12,133 white and 991 black. The month January showed the greatest number of deaths, 5,217, and February the lowest, 3,675.

Pneumonia heads the list of causes of death for the quarter with 2,700. Diseases of the Heart, 1,371, Tuberculosis of Lungs, 1,274; Bright's Disease, 1,013; Influenza, 617; Cancer, 567; Respiratory System, 428; Accidents, 402; Diphtheria and Croup, 158; Suicides, 157; Diarrhoea and Enteritis (under 2 yrs. of age), 136; Diabetes, 132; Puerperal State, 118; Other Forms of Tuberculosis, 110; Typhoid Fever, 71; Scarlet Fever, 64; Measles, 51; Homicides, 51; Whooping Cough, 40; Smallpox, 6; Epidemic Cerebrospinal Meningitis, 6; Acute Anterior Poliomyelitis, 5.

There were 17,960 births reported as having occurred during January, February and March, of which 9,140 were males, 8,820 were females; 17,365 whites and 595 blacks.

It will be noted from the foregoing that there were 4,836 more births than deaths during the quarter, and an increase of 338 over the same quarter in 1915.

Duties of Physicians in Reporting Births.

The Board of Health wishes to urge that physicians report all births attended by them within ten days after date of birth, as required by law. By so doing a great deal of inconvenience will be saved both the local registrar and the Central Bureau.

As an aid to the prompt filing of birth certificates, we would suggest that each physician carry one or more certificates with him and fill them out before leaving the place of birth. If the child is not named at this time, leave a supplemental report, and instruct the parents to forward same to the local registrar as soon as the child is named.

Our experience, up to the present time, has demonstrated that deaths are more promptly and properly reported than

births, and we wish to overcome this by urging the co-operation of all medical men with the local registrar.

Whenever possible, physicians have been appointed local registrars, and this fact, coupled with the duty of the attending physician in reporting births, places, in a great measure, the responsibility for the success of this law upon the medical profession, and we wish to urge your co-operation in this matter.

The failure to record a birth may mean loss of money, lack of proof of legitimacy, difficulty in proof of age for the requirements of school and labor laws, and may make an irreparable wrong to the child in future years. If you have been dilatory in the past in regard to the filing of birth certificates, you should file all delayed reports and be prompt in the future.

In communities where there is no regular embalmer or undertaker the physician last in attendance upon the deceased should consider it his duty to see that the death certificate is properly made out and instructions given to the relatives that it must be filed and the burial permit issued before a legal interment can be made.

The Cause of Death.

The Central Bureau of Vital Statistics will not accept indefinite or unsatisfactory cause of death. The primary and contributory causes, or complications, if any, and duration of each, must be definitely stated by the physicians or officials who makes the "Medical Certificate of Death."

A death which may be the result of either disease or violence should be carefully defined; and if from violence, its nature should be stated, and whether accidental, suicidal or homicidal.

In some cases it may be extremely difficult or impossible to determine definitely the cause of death, even if a post-mortem be granted. If the physician is absolutely unable to satisfy himself in this respect, it is better for him to write "Unknown" than merely to guess at the cause. It would be better if he could specify a little further, as unknown diseases, which exclude causes, or unknown chronic diseases, which exclude the acute infective diseases.

We would add that physicians should refer to the "Physician's Pocket Reference" in stating that "Cause of Death." This pamphlet should be in the hands of every physician in the State, and we will be glad to supply any requests for the same.

Table Showing Deaths in the State from Twenty-four Important Causes, Filed With the Central Bureau of Vital Statistics During the Months of January, February and March, 1916 (Stillbirths Excluded).

CAUSES.	Jan.	Feb.	Mar.	Totals.
Typhoid Fever.....	27	17	27	71
Smallpox.....	3	.....	4	7
Measles.....	3	3	45	51
Scarlet Fever.....	14	22	28	64
Whooping Cough.....	14	15	11	40
Diphtheria and Croup.....	77	41	40	158
Influenza.....	390	133	94	617
Tuberculosis of Lungs.....	451	372	451	1,274
Other forms of Tuberculosis.....	37	38	35	110
Cancer.....	192	197	178	567
Diabetes.....	54	35	43	132
Epidemic Cerebrospinal Meningitis.....	2	1	3	6
Acute Anterior Poliomyelitis.....	2	2	1	5
Other Diseases of the Nervous System.....	371	331	353	1,055
Diseases of the Heart and Circulatory System.....	521	402	448	1,371
Pneumonia and Broncho-pneumonia.....	1,324	641	735	2,700
Other Diseases of Respiratory System.....	167	120	141	428
Diarrhoea and Enteritis (under 2 years of age).....	52	40	44	136
Acute Nephritis and Bright's Disease.....	363	303	347	1,013
The Puerperal State.....	52	33	33	118
Accidents.....	127	124	151	402
Suicides.....	52	47	58	157
Homicides.....	17	12	22	51
Other Causes.....	905	746	940	2,591
Totals.....	5,217	3,675	4,232	13,124

Table Showing Births Filed With the Central Bureau of Vital Statistics During the Months of January, February and March, 1916—By Sex and Color.

Months.	Totals.	Males.		Females.	
		White.	Black.	White.	Black.
January.....	6,057	2,941	105	2,894	117
February.....	5,688	2,819	97	2,689	83
March.....	6,215	3,083	95	2,939	98
Totals.....	17,960	8,843	297	8,522	298
Totals by sex.....		9,140		8,820	

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
MARCH 31, 1916—Continued.

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhoea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
St. Joseph—	77,403																											
January.....		148	132	3				1	12	9	2	6	2				17	12	26	1	8	1	5	3			24	
February.....		108	128	1			1		6	9	1	2	4			23	11	24	2	10	3	3	2			19		
March.....		112	106					1	1	9	1	4	2			19	8	19	3	15	2	4	1			17		
Totals.....		368	366																									
Butler—	20,624																											
January.....		44	46	1				1	1	2		1				1	2	18	9	1	4	1				15		
February.....		56	42					1	2	1		3				2	2	5	1	2	2	2				15		
March.....		72	35						1	3						5	1	5	1	1	4	3				9		
Totals.....		172	123																									
Caldwell—	14,605																											
January.....		26	19							1		2				2	1	7			2	1				3		
February.....		19	14						2	1		3				2	1	1	1	3						1		
March.....		25	20			1			1	1							1	5			5					4		
Totals.....		70	53																									
Callaway—	24,400																											
January.....		38	42						5	5		1				8	2	8		1						8		
February.....		41	33						2	1		1				8	2	4			1					10		
March.....		32	28			1			2	2			1			8	2				3	1				7		
Totals.....		111	103																									

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
MARCH 31, 1916—Continued.

Counties.	Population, 1910.....	Total b i r t h s during the quarter.....	Total d e a t h s during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of t h e lungs.....	Other forms of Tubercu- losis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomy- elitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system.....	Pneumonia, Broncho- pneumonia.....	Other diseases of respira- tory system.....	Diarrhoea and Enteritis (under 2 years of age).	A c u t e N e p h r i t i s and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Henry—	27, 242																											
January.....		49	23								4	1							7			2						5
February.....		61	27								1	1						7			4			1				8
March.....		40	31				1				2	4	2					7	1		2							9
Totals.....		150	81																									
Hickory—	8, 741																											
January.....		15	10								1				1			5			1		1					2
February.....		13	8															2			1							4
March.....		15	5									1	1									1						2
Totals.....		43	23																									
Holt—	14, 539																											
January.....		21	31								7			2	1			3	3		6			2				1
February.....		26	11								1	2		1			4	1	1		2							
March.....		26	13														1	3	1	1	1							4
Totals.....		73	55																									
Howard—	15, 653																											
January.....		19	25								3	3		2			2	6	3		2							5
February.....		20	15											1				3	1		1		1					6
March.....		20	17									3		1	1			4	1									4
Totals.....		59	57																									

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
MARCH 31, 1916—Continued.

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																							
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup.....	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system.....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhea and Enteritis (under 2 years of age).....	Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....
Jefferson—	27,878																										
January.....	49	41	3						3	3	9			2			3	5	9	2	1						3
February.....	55	20									2						2	4	4						1		8
March.....	60	37	1							1	4							5	6	3					2		11
Totals.....		164	98																								
Johnson—	26,297																										
January.....	58	32								3	1		1				3	2	7	1			3				8
February.....	36	41							1	1	5		3				3	3	8	1			3		2	1	13
March.....	40	26									3	2	1				2	1	6				1		1		8
Totals.....		134	99																								
Knox—	12,403																										
January.....	20	18								3	3	1					2	1	1	1			2				4
February.....	14	11											1				1	2	2								2
March.....	13	8								2	2						2		1						1		
Totals.....		47	37																								
Laclede—	17,363																										
January.....	33	17									2		1				3		3	1			2	1			3
February.....	25	14										1					1	1				1					3
March.....	38	8															1	1									3
Totals.....		96	39																								

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
MARCH 31, 1916—Continued.**

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																									
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup.....	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system.....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhoea and Enteritis (under 2 years of age).....	Bright's Disease.....	Acute Nephritis and The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....		
Macon—	30,868																												
January.....		38	57	1	6	5	1	11	4	2	2	10	
February.....		58	23	1	.....	.....	.....	.....	1	1	2	.....	.....	.....	.....	.....	.....	2	1	.....	.....	.....	.....	.....	.....	.....	5
March.....		64	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
Totals.....		160	113	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Madison—	11,273																												
January.....		26	22	1	.....	.....	.....	.....	1	5	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	1	1	.....	.....	.....	.....	5
February.....		33	9	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	3	1	.....	.....	.....	.....	.....	.....	2
March.....		33	15	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
Totals.....		92	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maries—	10,008																												
January.....		13	10	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	4
February.....		18	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
March.....		21	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5
Totals.....		52	26		
Marion—	12,231																												
January.....		14	17	1	3	2	4		
February.....		13	7		
March.....		10	19	8		
Totals.....		37	43		

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**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING.
MARCH 31, 1916—Continued.**

County .	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Morgan—	12,863																											
January.....		26	15							1							2	2	5			1						3
February.....		14	5														1	1	2								1	1
March.....		21	18	1							1						1	1	5	2		2						3
Totals.....		61	38																									
New Madrid—	19,488																											
January.....		54	19							2	2		1				1	1	9			1						2
February.....		56	9							1								1	1			1						5
March.....		67	19							1	3						2	1	3	1					1			7
Totals.....		177	47																									
Newton—	27,136																											
January.....		47	45	1					1	2	5	1	3	1			4	6	13	1		3						4
February.....		38	7								1		1					2	1		1							
March.....		61	33			1				1	2	1	1				1	2	12	1	1	5			1			5
Totals.....		146	85																									
Nodaway—	28,833																											
January.....		38	45							8			4	1			5	4	14	1		2			1			4
February.....		49	20								1		1				4	1	4	2					2			2
March.....		55	38							2	3	1	1	1			3	6	4	1	1	3				1		11
Totals.....		142	103																									

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
MARCH 31, 1916—Continued.

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhoea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Phelps—	15,796																											
January.....		31	23							2	1	1					1	2	9				3					4
February.....		32	17							1	1						1	8										4
March.....		29	23					1		2	2						1	10					3		1			2
Totals.....		92	63																									
Pike—	22,556																											
January.....		26	40					1	1	6	4		1					7	13		2				1		2	
February.....		25	19							3	1						1	1	6									5
March.....		46	30							5	2	1		1			1	2	6		1		4					5
Totals.....		97	89																									
Platte—	14,429																											
January.....		24	25							2			3	1			1	4	8		1		1					3
February.....		22	11								1		1				2											2
March.....		39	14										2				1	2					3					5
Totals.....		85	50																									
Polk—	21,561																											
January.....		43	44				1	1	2	5	4			1			3		17		1							9
February.....		37	12								4						2		2									3
March.....		39	25						1		1		2	1			3	5	5		1			1	1			4
Totals.....		119	81																									

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
MARCH 31, 1916—Continued.**

Counties.	Population, 1910.....	Total b i r t h s during the quarter.....	Total d e a t h s during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup.....	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system.....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhoea and Enteritis (under 2 years of age).....	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Ripley—	13,009																											
January.....		48	13								3		1				3				1						1	2
February.....		22	8		1						1		1				1										2	2
March.....		22	5								1							1										2
Totals.....		92	26																									
St. Charles—	24,695																											
January.....		45	30							3	3	1	1			2	7	8		1							4	2
February.....		41	15								2	1	1				1	3	3	2								2
March.....		54	34							1	2	1	1					7	5	1		2		1				9
Totals.....		140	89																									
St. Clair—	16,412																											
January.....		16	22	1					1		1						2	2	5	1							7	3
February.....		39	16								1		2	1			2	2	3		1							2
March.....		32	15	1							4						2	2	2			1		1				2
Totals.....		87	53																									
St. Francois—	35,738																											
January.....		58	54						1	3	4		1				2	1	20		3					1	18	
February.....		58	28								3						2		8									11
March.....		69	49			1				1	4	1	2				2	3	11	1	4	1	2					15
Totals.....		185	131																									

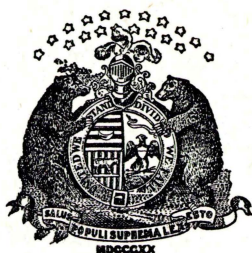
BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER 31, 1916—Continued.

Counties.	Population, 1910.....	Total b i r t h s during the quarter.....	Total d e a t h s during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup...	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhoea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Shelby—	14,864																											
January.....		27	16						1		2	1						3	4		2							3
February.....		23	13								1	1		1				3	3									1
March.....		20	24		1				1		1	3					2	4	4	1								6
Totals.....		70	53																									
Stoddard—	27,807																											
January.....		76	84		1				2	3	10	2						3	33	5	1	1	1					18
February.....		98	25								1	3					1	4	4									13
March.....		86	29								3	3					2	4	4	1								14
Totals.....		260	138																									
Stone—	11,559																											
January.....		26	18								1	1						1	6	1								8
February.....		24	4								1						1											1
March.....		38	16									4		1				4			1		2					4
Totals.....		88	38																									
Sullivan—	80,598																											
January.....		54	27								3	3		1				4	1		6	2						6
February.....		29	12								1	1		1				1	1		1							2
March.....		31	24		1				1		1	1					4	3	2									8
Totals.....		114	63																									

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
MARCH 31, 1916—Continued.**

Counties.	Population, 1910.	Total births during the quarter.	Total deaths during the quarter.	Important causes of death.																								
				Typhoid Fever.	Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Croup.	Influenza.	Tuberculosis of the lungs.	Other forms of Tuberculosis.	Cancer.	Diabetes.	Epidemic Cerebrospinal Meningitis.	Acute Anterior Poliomyelitis.	Other diseases of the nervous system.	Diseases of heart and circulatory system.	Pneumonia, Bronchopneumonia.	Other diseases of respiratory system.	Diarrhoea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.	The puerperal state.	Accidents.	Suicides.	Homicides.	Other causes.	
Worth—	8,007						1			2	1		3						5	3		3						2
January.		10	20																1	1								1
February.		20	2								1																	
March.		5	3																									
Totals.		35	25																									
Wright—	18,315																											
January.		26	16						1	1	1								1	3	1				2			6
February.		26	16	2							1								2	6								5
March.		15	6						1	2									1									2
Totals.		67	38																									
St. Louis city—	687,029																											
January.		1,113	1,318	2			3		16	49	98	8	55	9	1			76	189	407	54	13	115	8	38	21	9	147
February.		1,100	907	3			6	6	13	13	75	10	65	12				73	131	157	42	9	100	10	40	17	2	123
March.		1,239	1,046	5		1	4	1	8	4	105	6	45	8	2			92	148	183	50	8	109	4	42	27	12	182
Totals.		3,452	3,271																									
Totals—																												
January.		6,057	5,217	27	3	3	14	14	77	390	451	37	192	54	2	2	371	521	1324	167	52	363	52	127	52	17	905	
February.		5,688	3,675	17		3	22	15	41	133	372	38	197	35	1	2	331	402	641	120	40	303	33	124	47	12	746	
March.		6,215	4,232	27	4	45	28	11	40	94	451	35	178	43	3	1	353	448	735	141	44	347	33	151	58	22	940	
Grand totals.		17,960	13,124	71	7	51	64	40	158	617	1274	110	567	132	6	5	1055	1371	2700	428	136	1013	118	402	157	51	2591	

MISSOURI STATE BOARD OF HEALTH



QUARTERLY BULLETIN

NEW SERIES

VOL. 6

APRIL-JUNE, 1916

NO. 2

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Published at Jefferson City



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BULLETIN OF THE Missouri State Board of Health

NEW SERIES

VOL. 6

APRIL-JUNE

NO. 2

Excerpts from Board Minutes.

April 24, 1916—Jefferson City, Mo.—The Board, by unanimous vote, found Dr. U. S. G. Hughes of Kansas City, Mo., guilty of the charge of selling narcotics illegally and his license was revoked for a period of twenty years. Also, the license of Dr. J. H. Hughes of Kansas City, Mo., was revoked for a period of twenty years on the same charge.

June 15, 1916—St. Louis, Mo.—The Board, by unanimous vote, found Dr. J. W. Carryer of Columbia, Mo., guilty of the charge preferred and by unanimous vote revoked his license for a period of twenty-five years.

July 17, 1916—Jefferson City, Mo.—It was moved and carried by unanimous vote that Dr. Alfred Noble Gray be found guilty as charged—obtaining his license through fraud. It was further moved and carried by unanimous vote that his license be revoked for a term of fifty (50) years from and after July 17, 1916.

It was moved and carried by unanimous vote that the following schools be declared medical colleges not accredited by the State Board of Health of Missouri, from and after this date:

- College of Physicians & Surgeons, San Francisco, Calif.
- Cllege of Medical Evangelists, Loma Linda, Calif.
- Georgia College of Eclectic Medicine and Surgery.
- Chicago Hospital College of Medicine.
- Jenner Medical College, Chicago, Ill.
- College of Physicians & Surgeons, Boston, Mass.
- Lincoln Medical College, Lincoln, Nebr.
- New York Medical College & Hospital for Woman.
- Ohio State University, College of Homeopathic Medicine.

As a result of the examination for license to practice medicine, surgery and midwifery in the State of Missouri, held in St. Louis, Mo., June 12-13-14, 1916, the following passed:

Anderson, Lionel Andrius	Douglas, Kans.
Aull, John	Lexington, Mo.
Avery, Walter James	St. Louis, Mo.
Bell, Leo Pecci	Monroe City, Mo.
Belsey, Wallace Adair	St. Louis, Mo.
Birchfield, George Irvin	E. St. Louis, Ill.
Black, James Molthrop	Carrollton, Ill.
Bohrer, Harry Cleophus	St. Louis, Mo.
Boutwell, Lloyd Reuben	Hamilton, Mo.
Brandon, Walter Lee	Essex, Mo.
Brennan, Thomas Philip	St. Louis, Mo.
Brooks, Lawrence Floyd	Meridian, Miss.
Brown, James Millington	St. Louis, Mo.
Bunch, James Ralph	Ozark, Mo.
Bundy, Harry Eugene	St. Louis, Mo.
Burgess, Albert Ross	St. Louis, Mo.
Campbell, Cecil Stevenson	St. Louis, Mo.
Cardwell, Clarence	Stella, Mo.
Carr, Alfred Newton	St. Louis, Mo.
Cataldi, Peter	St. Louis, Mo.
Cerice, Raul Guma	Chicago, Ill.
Dallwig, Leon Eugene	St. Louis, Mo.
Damron, Marcus Rolla	St. Louis, Mo.
Davis, Hugh Jefferson	St. Louis, Mo.
Davis, Paul Campbell	Holliday, Mo.
Davis, William Dalton	Berger, Mo.
DeLay, Eli Milton	Rome, Ga.
Diggs, Nicholas Alfred	Chicago, Ill.
Dorsey, Jackson Stonewall	New York City.
Edwards, James David	St. Louis, Mo.
Ellis, Ralph Victor	St. Louis, Mo.
Fahrner, Arthur Herman	St. Louis, Mo.
Farmer, Lee Roy	Hartville, Mo.
Farris, William Walker	McComb, Okla.
Foster, Robert Leonard	Chicago, Ill.
Frazier, Thomas Weston	Louisville, Miss.
Fuerth, Arthur Lawrence	Cape Girardeau, Mo.
Fulkerson, George	St. Louis, Mo.
Funsch, Edwin Clarence	St. Louis, Mo.

Gaston, Ralph Estep	St. Louis, Mo.
Gettinger, Andrew Joseph	St. Louis, Mo.
Goebel, Albert Edmund	Montrose, Ill.
Haley, Roy Robert	St. Louis, Mo.
Hamilton, Clarence Orval	St. Louis, Mo.
Harned, Will Jacob	Ardmore, Mo.
Hart, Elesberry Parmley	Galconda, Ill.
Haskins, Henry Ford	St. Louis, Mo.
Haynes, Solon Earl	St. Louis, Mo.
Hellrung, Frank Joseph	St. Louis, Mo.
Hennerich, Walter Emil	St. Louis, Mo.
Holcomeb, Roland Nowlin	St. Louis, Mo.
January, Carl Claude	Centerville, Mo.
Johnson, Roy	St. Louis, Mo.
Kelly, Frank Leo	St. Louis, Mo.
Kempff, Joseph William	St. Louis, Mo.
Kieffer, Roland Spurlock	St. Louis, Mo.
Kowalsky, Ezra	St. Louis, Mo.
Kyner, Thomas Arthur	Kansas City, Kans.
LaForce, Herman August	St. Louis, Mo.
Lewis, Charles Edward	Hendrickson, Mo.
Limbaugh, Walter Ray	Hornersville, Mo.
Link, Edward Xavier	St. Louis, Mo.
Long, Charles Richard	St. Louis, Mo.
McCarthy, Joseph Daniel	St. Louis, Mo.
McClory, Anthony	St. Louis, Mo.
McCormack, Noble DuBois	St. Louis, Mo.
McGill, Lucien Robert	St. Louis, Mo.
McHenry, Ray Ralph	Rogers, Ark.
McVay, James Robert	Trenton, Mo.
Mahoney, Dan Lawrence	St. Louis, Mo.
Mattice, Eugene	St. Louis, Mo.
Meiners, Edwin Paul	St. Louis, Mo.
Mellies, Walter Julius	St. Louis, Mo.
Miehe, William John	St. Louis, Mo.
Mitchell, Roy Earl	St. Louis, Mo.
Myers, Roy Everett	Newtonia, Mo.
Peeler, James Owen	St. Louis, Mo.
Pell, Teresa Olive	St. Louis, Mo.
Pollock, William Cramer	St. Louis, Mo.
Poore, Carl Basile	St. Louis, Mo.
Poos, Edgar Everett	St. Louis, Mo.

Powers, James William	Kansas City, Mo.
Rendleman, George Franklin	St. Louis, Mo.
Royer, Don John	Joplin, Mo.
Russell, William Wallace	St. Louis, Mo.
Salyer, Glenn Wendell	Shell Knob, Mo.
Schmidt, Erwin Rudolph	St. Louis, Mo.
Schmidt, Irwin Henry	St. Louis, Mo.
Schnoebelen, Paul Carroll	St. Louis, Mo.
Schroeder, Walther Hans	St. Louis, Mo.
Sewell, Minor Franklin	Kansas City, Mo.
Shores, Earl Martin	Terre Haute, Ind.
Sillyman, William Thomas	Bucyrus, Mo.
Smith, William Irving	St. Louis, Mo.
Smith, William Jewell	Carrollton, Mo.
Spell, Frank Reid	Roseboro, N. C.
Stein, William Frederick	St. Louis, Mo.
Stevenson, Paul Huston	Maplewood, Mo.
Stricker, Olinda Anna	St. Louis, Mo.
Thompson, Jamie Campbell	Duncombe, Iowa.
Timberman, DeWilton	St. Louis, Mo.
Townsend, Vincent Francis	Maplewood, Mo.
VanHecke, Dean Stanislaw	Kansas City, Mo.
Vaughan, John David	St. Joseph, Mo.
Vaught, Walter Kelly	Lawrenceville, Ill.
Veray Rivera, Luis G.	Topeka, Kans.
Vernon, William Chester	Kansas City, Mo.
Walsh, L. S. Newman	St. Louis, Mo.
Webster, Robert Allen	St. Louis, Mo.
Williams, Reuben Hamilton	St. Louis, Mo.
Williams, Robert Sidney	St. Louis, Mo.
Wilson, Guy	St. Louis, Mo.
Wise, Hugh James	Clever, Mo.
Wittwer, Hugh Joseph	St. Louis, Mo.
Yoskvit, Harry	St. Louis, Mo.
Young, Nicholas Aloys	St. Louis, Mo.
Zachritz, George Frederick	St. Louis, Mo.

And the following failed:

Back, Grover Cleveland	Zalma, Mo.
Crosby, Edward Doskett	St. Louis, Mo.
Evans, James Alfred	St. Louis, Mo.
Francis, Harry Herbert	Kansas City, Mo.
Glasco, Loren A.	St. Louis, Mo.

Gzell, Ronold	St. Louis, Mo.
Jones, Tucker Jerome	St. Louis, Mo.
Maples, Floyd Herman	Clever, Mo.
Pope, James Ethel	St. Louis, Mo.

The following passed the examination for midwife license:

Bucci Rota, Lucy A. F.	St. Louis, Mo.
Lasch, Rose Addye	St. Louis, Mo.
Murphy, Marie Lucille	St. Louis, Mo.
Olszewska, Rosie	St. Louis, Mo.
White, Anna Hummel	Belleville, Ill.

Resolution on Death of Dr. Frank J. Lutz.

"Whereas, With deepest sorrow we have learned of the death of our friend and fellow practitioner, Dr. Frank J. Lutz, and,

Whereas, By his eminent qualifications he had enjoyed the highest honors within the gift of the state and at the hands of his colaborers, serving for a number of years as President of the Missouri State Board of Health and as President of the Missouri State Medical Association and at the time of his death occupying the position of chairman of the Committee of Councilors of the Missouri State Medical Association and,

Whereas, By his courteous demeanor and his unimpeachable integrity he won the respect and admiration of his associates, and,

Whereas, By his untimely death, coming as it did at the acme of his usefulness, the city, state and nation have lost one of their most useful and progressive citizens, and his wife a devoted husband; therefore, be it

Resolved, That we extend to his sorrowing relatives our deepest condolence in this time of their sorrow and bereavement, realizing at the same time that no words of ours can in any degree assuage their suffering; and assuring them of our own personal loss, and be it further

Resolved, That these resolutions be copied on our minutes and made a part of our record and furnished to our State Medical Journal for publication and a copy sent to his sorrowing wife."

Resolution on the Death of Dr. C. H. Hughes.

Whereas, We have learned of the death of our distinguished friend and colaborer, Dr. C. H. Hughes of St. Louis, and

Whereas, The medical profession has sustained the greatest loss in recent years; therefore, be it

Resolved that this Board extend to the bereaved family our deepest condolence and be it further resolved that these resolutions be spread on our minutes and copies furnished to the State Medical Journal and the sorrowing relatives."

Poliomyelitis Warnings.

Jefferson City, July 12, 1916.

Dear Doctor:—

As Poliomyelitis is epidemic in New York City and isolated cases are appearing in a number of the states, and in our state also, all physicians are hereby requested by the State Board of Health to completely isolate each case of the disease as soon as ascertained and report the same immediately to the State Board of Health and the local Health Officer.

This disease moves in a mysterious way and there is very little known about it, yet the virus is known to exist in the nose and throat of children, and animals as well, and is communicable.

It is therefore advised that every precaution be taken in the way of cleanliness. Due care should be taken in trapping flies and screening against them, and the premises should be kept scrupulously clean. Domestic animals are a source of danger and children should not be permitted to play with them during the summer months as 80 per cent of all cases are confined to the summer months, and the disease is confined almost exclusively to children under ten years of age.

As the virus is found in the nose and throat it is advised that saline gargles be used freely, even in the case of healthy children and grown people as well.

It is also advised that during the summer months children under ten years of age be kept from picture shows and other crowded gatherings.

By Order of the State Board of Health.

J. A. B. ADCOCK, M. D., Secretary.

P. S. It would be well for you to see that the above notice is published in your local paper that the citizens of your community may receive the same warning.

Jefferson City, July 20, 1916.

To Local Health Officers of Missouri:

The State Board of Health advises that our citizens need not be alarmed over Infantile Paralysis becoming epidemic in Missouri this summer, especially as a general cleanup is in progress throughout the state in every city, town and village, and in the country as well.

Every incorporated town should have a strong ordinance compelling cleanliness:

1st. All out-toilets should be made fly-proof and houses screened against flies and other winged insects.

2nd. All refuse from dwellings should be kept in closed cans or boxes and removed at least twice a week.

3rd. Stable manure should be put in tight boxes and borax sprinkled over the surface to destroy the larvae of flies. Remove the manure at least once a week; every day will be better.

Do not permit any form of filth to accumulate about dwellings or barnyards.

4th. All stagnant pools of water should be drained.

5th. If cleanliness be the watch-word of our citizens and abound through the summer and autumn months; typhoid fever, dysentery, enterocolitis, which is so fatal to children, and all other enteric diseases will be reduced to a negligible number; and a foothold for epidemic Infantile Paralysis will thus be eliminated.

It is up to our citizens to keep clean. Shall we do it? DO IT QUICKLY.

By Order of the State Board of Health.

J. A. B. ADCOCK, M. D., Secretary.

P. S. All health officers throughout the State are required to make immediate report to the State Board of Health by telegram of all cases of Infantile Paralysis.

Bureau of Public Health Service, Washington, July 24, 1916.
 Dr. J. A. B. Adcock, Secretary, Bureau of Vital Statistics,
 Missouri State Board of Health, Jefferson City, Missouri.
 Sir: Receipt is acknowledged of your communication of
 July 15, 1916, regarding the spread of poliomyelitis.

There is being forwarded to you under separate cover, literature relating to this subject. You are informed that the

Public Health Service has instituted an inspection and notification system in the city of New York, whereby the health authorities of different communities are notified of the coming of children under sixteen years of age from the city of New York. It is believed that this is a reasonable measure and will be a considerable assistance in the prevention of the interstate spread of the disease.

As you doubtless are aware, the carrier problem in infantile paralysis is of importance. It is at present believed that a very large per cent of the cases are received through infection from carriers. Unfortunately there is no feasible method other than the inoculation of monkeys to determine and identify such carriers. This necessarily complicates the situation. With the carrier problem as it is you can readily understand that quarantine measures as ordinarily administered do not act as a sufficient barrier against the introduction of the disease.

By direction of the Surgeon General.

Respectfully,

W. C. RUCKER,

Assistant Surgeon General.

Prevention of Infantile Paralysis.

(United States Public Health Service.)

To control the present epidemic of infantile paralysis, according to a statement issued by the United States Public Health Service to-day, the chain of infection between persons harboring germs of the disease and the well members of the community should be broken. Infantile paralysis is probably caused by a very minute organism found in the nasal, mouth and bowel discharges of those who have the disease or who are carriers of the germ without themselves suffering from the ailment. All of the steps in the spread of the infection are not known but if this germ can be prevented from passing from the infected to the well person, the disease will cease.

Infantile paralysis is not a disease of recent origin. Sporadic or scattered cases have occurred throughout the country for many years but it is only during the last decade that the infection has assumed epidemic proportions in the United States. The present epidemic in New York City, on account of its magnitude and virulence, has awakened the residents of many communities to the danger of the importation of the

disease into their own midst. This danger is real, but if due precautions are exercised it is believed that the epidemic will subside.

The actual control of the present epidemic must be left to the city, State and Federal health authorities. These organizations will properly quarantine and care for affected persons, prescribe sanitary measures and limit as may be necessary the travel of individuals in order to protect neighboring districts from the infection. Individuals and communities, however, can do much toward their own protection.

Poliomyelitis is probably spread directly or indirectly, through the medium of infective secretions. Account must therefore be taken by communities of every means by which such secretions are disseminated. Promiscuous expectoration should be controlled. The common drinking cup affords a method for the interchange of material of this nature and should therefore be abolished. Rigid cleanliness of glasses and utensils at soda fountains, in saloons and other public places should be enforced. Flies, roaches and other vermin, by coming in contact with infective secretions, may possibly convey them to our food and thus directly bring about the development of disease. Therefore eliminate insects. Street and house dust bear a definite relation to the spread of many infections and it is not unreasonable to presume that they may be a factor in the dissemination of infantile paralysis. Maintain strict cleanliness of streets, yards and alleys in order to prevent the breeding of insects and other vermin. See that all garbage and waste are properly cared for and collected at regular and frequent intervals. Guard all food supplies, especially milk and other perishable products. Digestive troubles of children arising from the ingestion of food of questionable quality may lower resistance. Assemblies of children in infected localities are to be discouraged, if not actually forbidden. While the above measures are in a sense general, and applicable to many epidemic diseases, their importance should not be overlooked.

Individual preventive measures may be thus summarized:

Summon a physician at once and immediately notify the health officer of the presence of the disease. If the disease is present in the community, medical aid should be sought whenever a child is sick no matter how light the illness; many cases of infantile paralysis begin with a slight indisposition. Should the illness prove to be infantile paralysis isolate the

patient, place a competent person in charge, and reduce all communication with the sick room to a minimum. Hospital care is preferable, not only for the child but in order to better safeguard against the spread of the disease. The sick room should be well ventilated and screened. Nasal and mouth secretions should be received in cloths, placed in a paper bag, and burned. The clothing of the child, the bed linen, and the excretions should be disinfected in the same manner as for typhoid fever, that is by boiling, the long continued application of 5 per cent carbolic, or other well recognized disinfectant. The same is true for dishes and drinking vessels. Nurses should exercise the same precautions as regards cleanliness of hands in caring for infantile paralysis patients as for those afflicted with other infectious diseases.

A child may convey the disease to others even after a lapse of several weeks. For this reason quarantine should be maintained for a considerable period, usually from six to eight weeks, and the above precautions should be adhered to during this time. Disinfection of the room following recovery is advisable.

**Rules and Regulations for Quarantine of Infantile Paralysis
(Acute Anterior Poliomyelitis) Adopted by the Advisory
Board of the Department of Health of the Common-
wealth of Pennsylvania, July 8th, 1916.**

(Commonwealth of Pennsylvania, Department of Health.)

1. Upon receipt by the health authorities of any township of the first class, borough or city, or by a health officer of the State Department of Health of a report of the existence of a case of acute anterior poliomyelitis, the said health authorities or the health officer of the State Department of Health, as the case may be, shall quarantine or cause to be quarantined the premises in which such disease exists, and any person or persons who has or have been exposed thereto, in the manner prescribed by the following rules and regulations, and shall post or cause to be posted upon the premises in which said disease may be located, a placard upon which shall be printed in conspicuous letters the name of the said disease with the warning that the said premises are quarantined and that no person or persons other than the attending physician and trained nurse shall enter or leave the said premises except by permission of the health authorities, and setting forth the penalties pre-

scribed by the act of May 28th, 1915, P. L. 617, for violations of quarantine. See attached.

2. The quarantine period for acute anterior poliomyelitis shall be a minimum period of twenty-one (21) days from the date of onset, or until complete recovery, or the death or removal of the patient.

3. The placard or placards shall remain in place until the expiration of the quarantine period and shall only be removed by the health officer, at which time he shall disinfect the premises. After such disinfection the householder shall thoroughly cleanse the room occupied by the patient and all articles of bedding, clothing, etc., with soap and water, and shall thoroughly air the room and admit as much sunlight as circumstances will permit.

4. Quarantine restrictions for acute anterior poliomyelitis relating to school attendance, exposure of patient in public places, use of conveyances by persons suffering therefrom, sale of bedding, clothing, etc., burial of bodies and funerals of persons dying therefrom, shall be the same as is now provided for diphtheria and certain other diseases by sections 5, 10, 15, 16, 19, 20 and 21 of the act of May 28th, 1915, P. L. 617.

5. Children under sixteen (16) in a premises quarantined for poliomyelitis, but themselves not affected with the disease, shall not be permitted to attend any school, church service, theatre or moving-picture show during the quarantine period.

6. All doors and windows in rooms occupied by persons suffering from acute anterior poliomyelitis must be screened from flies and other insects.

ADVISORY BOARD.

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SAMUEL G. DIXON, M. D.,

Commissioner.

State Wars Against Infantile Paralysis.

(News Letters No. 24 From the California State Board of Health, Sacramento.)

Every effort to prevent the introduction of infantile paralysis into California is being exerted by the California State Board of Health. In order to learn if any cases or contacts are being brought into the State from the East, where the disease is now epidemic, inspectors of all transcontinental passenger trains have been stationed at points along the border lines where the railroads enter California. Without the co-operation of citizens, however, this procedure is of small importance.

Every suspected case of illness in children, particularly intestinal or digestive disturbances, should be reported immediately to the local health officer for investigation. Children should not be allowed to come into contact with such persons, who are ill, whether they are children or adults.

The diagnosis of infantile paralysis is oftentimes not determined until the paralysis appears. Since many cases begin with the acute digestive or intestinal disturbances, followed by high fever, special attention should be paid to disorders of this sort.

While comparatively few cases of the disease have occurred in California during the past few years, several epidemics of magnitude have occurred in the State. At the beginning of July there were only four cases in California and these were widely scattered.

The California State Board of Health does not feel that there is any occasion for alarm, but it desires to emphasize the importance of taking every possible preventive measure that may be available, in order that California may not be visited with a devastating epidemic of the disease.

Things which are Bad for All Babies.

Pacifiers.

Thumb sucking.

Soothing syrups.

Patent medicines.

Whisky or gin for supposed colic.

Dirty playthings, dirty nipples, dirty bottles, dirty floors.

Waterproof diapers except for temporary use.

Moving picture shows.

Violent rocking, bouncing and rollicking play at any time.

Play of every sort after feeding.

Kissing the baby on his mouth either by the family or by strangers.

Testing the temperature of the baby's milk by taking the nipple in the mouth.

Sucking on empty bottles.

Sleeping on the mother's breast while nursing.

Sleeping in bed with the mother.

Spitting on handkerchief to remove dirt from baby's face.

Sneezing and coughing in the baby's face.

Allowing a person with a cough or a cold to hold the baby.

Allowing any person with tuberculosis to take care of the baby.

The baby is not a toy or a plaything, but a great responsibility—its health, growth and happiness depend largely on you.

The Summer Care of Babies.

THE BREAST-FED BABIES.

Breast milk is the best milk for the summer.

Breast-fed babies seldom have severe diarrhea.

If they vomit or have acute indigestion it is usually because they are fed too much or too often, or because the mother is so sick or tired out that her milk is poor.

In very hot weather the baby should nurse less often.

Give him the breast only every four hours, but give cooled boiled water freely between the nursings.

THE BOTTLE-FED BABIES.

They are much more likely to get diarrhea.

If they have diarrhea it is much more often severe.

The milk must be clean and be kept cold.

It should be boiled or pasteurized.

The bottles and rubber nipples should be boiled daily and kept very clean.

In very hot weather the baby needs less food but more to drink. His milk should therefore be diluted with boiled water and cooled boiled water given freely between feedings.

SUMMER DIARRHEA.

It is easier to prevent diarrhea than to cure it.

The important means of preventing severe diarrhea are:

1. Boil all milk in summer.
2. Dilute the baby's food in very hot spells.
3. Stop the food at once if an acute diarrhea begins.

If the movements become loose and only two or three a day, do not neglect it because the baby happens to be teething; it may mean the beginning of a serious illness.

Dilute the food with an equal amount of boiled water and give less than usual amount at a feeding.

If the movements are more frequent and there is vomiting or fever, stop all food at once and give only boiled water, and call a doctor.

After twelve hours without food, barley water, made one tablespoonful to one pint, may be given.

Proper treatment at the beginning of a diarrheal attack is worth more than many days' treatment later.

GENERAL CARE.

The clothing in hot weather should be light and on very hot days only the shirt, band and napkin worn.

Bathe the baby morning and evening and on hot days also in the middle of the day.

Keep the skin clean and well powdered.

Napkins when soiled should be placed at once in water and washed as soon as possible.

The baby needs fresh air quite as much as fresh food.

Keep him out of doors as much as possible.

Avoid the sun on hot days.

In very hot weather take him out early in the morning and in the late afternoon and early evening.

It is often cooler in the house, with shutters closed, in the middle of the day.

Take the baby to the park, to the beach and to the country whenever you can.

AVOID INFECTION.

Keep the room free from soiled clothes and rubbish.

Do not let the baby play with cats or dogs. Cats and dogs carry disease to babies.

Do not let the baby crawl around on a dirty floor or dusty carpet. Place him on a clean sheet or blanket.

Keep playthings and pacifiers out of his mouth.

Flies carry disease to babies. Screen the baby's room.

Keep flies away from the baby and his food at all times.

Cover the crib or carriage with netting to keep out the flies and mosquitoes.

By Am. Med. Ass'n.

Health of Home and School.

(Issued by the State Board of Health of Maine.)

[The following notes are from an address made by Prof. S. H. Woodbridge, of the Massachusetts Institute of Technology, Boston, one of the most eminent of authorities on heating and ventilation.]

AIR AND THE SCHOOLHOUSE.

What man purposely does with and through fuel and air, he does less consciously with and through food and air. The boiler furnace is fed fuel and is given draught. Man eats food and breathes air. In both the process is one of conversion of chemical energy into thermal energy, of energy of repose into energy of action. The body, supremely fitted to its function, is purposed and fashioned to receive energy stored in food and air, to transform that energy into vital energy, the dynamic energy of muscle, the finer motor energy of nerve, the mysterious and directive energy of brain.

As a matter of practical experience, the quality of air fed to a fire is of larger importance than is the quality of coal fed to it. Ask any experienced fireman as to the first essential for maintaining a good fire and he will reply "a good draught."

Waste attends any variation from the exactness of the conditions upon which the completeness of desired results depends. Remove from the air oxygen equal to one five-hundredth of the air volume, and replace, that oxygen by the gaseous product of carbon oxidation, carbon acid gas, and the luminosity of the candle flame drops one-twentieth. That is, a change in air of one produces a change in luminosity of twenty-five.

If the candle flame pales, why should not the vital flame droop? If the glow of a candle flame changes to a duller and a lurid hue, why should not the cheeks of the breathers of the air, in which that candle so burns, redden with feverish flush? If when the carbon dioxide of the air changes from the normal,

four parts in ten thousand, to twenty parts, the candle loses one-twentieth of its brilliancy, why should not alertness be changed to listlessness, quick and clear insight to the slow grasping of the lethargic mind? the keen edge of mental acumen be dulled? the finest flower and highest color of vital energy droop? rapidity and accuracy of productive work change to the plodding and blundering effort of depleted energy? the exhilaration of work with energy in surplus change to the burdensomeness of toil when life's edge is dulled, and there must "be put to the more strength" for every result achieved?

RESULTS OF BAD AIR.

The direction of an imperceptible air current is not to be determined by throwing a brick into it, but rather a straw or a fluffy feather. Tendencies are best and properly observed only under conditions of delicacy of adjustment, of sensitiveness and susceptibility to the action of causes under inspection. The feeble and puny beginning of life, the baby age, is well suited to that purpose. And the history of its gasping for better breath, and of its dying for want of it, could even the briefest resume of that story be given, would furnish a decisive demonstration of the tendency trend.

In one maternity hospital the death-rate for years when ventilation was insufficient was reduced to one-tenth when ample ventilation contributed to better sanitation.

In the case of adults the tendency trend is less evident, yet significant. In the surgical wards of a well-known hospital the death-rate has changed from forty-four per cent, with faulty ventilation, to thirteen per cent with free ventilation and in the general wards from twenty-three without, to six with good ventilation.

PROFIT AND LOSS.

The question of present interest is, what are the profitable minimum and maximum limits of air supply? "Shall we ventilate to merely keep our children from death or sickness? or rather, to fill them to the full with vital energy?" Surely the question of vital economy is not, what least will keep the vital flame from extinction; but, rather, what best will bring and hold that flame to its fullest glow.

Certain students, recognized at home and abroad as authorities in matters of vital economy, have found that the effect

of the vitiated air of unventilated schoolrooms is to reduce the work of teachers and scholars to at least seventy-five per cent of that easily and regularly done in well ventilated rooms. The truth of that assertion has been demonstrated under the author's observation, and has been testified to by teachers of his acquaintance.

For the sake of definiteness, let it be assumed that the school building accomodates six hundred scholars, and that the per capita cost for the school is eighty-five dollars per annum, or a total of fifty-one thousand dollars per year. Let it be further assumed that the poorer air reduces the value of the work of the schoolroom no more than fifteen per cent—instead of the more probable twenty-five per cent—through the dullness, slowness, and other faultiness of work on the part of the scholars and of teachers. That means an immediate yearly loss of fifteen per cent on fifty-one thousand dollars, or seven thousand six hundred and fifty dollars.

The losses attributable to the vitiated air of schoolhouses are by no means limited to those of the rooms themselves. . In side the schoolrooms the penalties are many and severe, outside they are more and heavier; life's vitality in the aggregate impaired; the beginning of profitable life work delayed; the laboriousness of that work increased when begun, and the period of its extent shortened; the liability of contracting disease increased through reduced vitality; the expenses incident to sickness made greater; the liability incurred to the greater severity of sickness when it comes; and the handicap invited which burdens and shortens and lends a minor key to all life's after work.

COST OF VENTILATION.

The supply of air to be furnished to healthy high school breathers in order to insure a reasonable, though not generous, wholesomeness of atmospheric environment is twenty-four hundred cubic feet an hour per capita; or, for a high school daily session, fourteen thousand four hundred cubic feet per capita. The per capita cost in fuel for warming that quantity of air in average winter weather would be approximately one-third of a cent a day. The weekly cost of fuel of ventilation may therefore be placed at something less than two cents per capita. A school year of fresh school-air costs no more than three days' meals for the scholar in our average homes. What

other so large, so lasting benefit could be purchased at so small a price?

What then shall be said of committees, to whom are committed so much of the vital as well as the intellectual interests of our children and their future, when they treat ventilation as a luxury for the few rather than as the right of all who have a right to live? What shall be said of the policy applied to this typical high school, which would save twenty hundred dollars in running expenses, and thereby lose seventy-six hundred in product?

There is no public knee too large for accommodating such offenders, nor any public arm too strong for administering to them the discipline they merit.

Flies and Filth Cause Many Sick Babies.

"The relation of flies and filth to sick babies has been proven to be almost that of cause and effect," says a recent bulletin of the State Board of Health. "Only artificial feeding is as much a cause of baby sickness as flies and filth." As authority for this significant statement as concerns the baby's health and the presence of flies and filth in the home, the Board gives here an account of a recent investigation conducted by the health departments in New York City for the purpose of determining just these relations.

"It was desired to determine whether the house fly is the chief carrier of diarrhea or whether dirt in the home and artificial feeding are more deadly factors in this serious condition. The cases investigated were divided carefully into a fly-protected group and a fly-exposed group. These groups were made as similar as it was possible to make them. The infants were visited every five days by nurses. The fly-exposed cases received all the instruction given in child hygiene work, but no special emphasis was laid on eliminating the house fly. In the protected group the greatest emphasis was laid on the absolute protection of the baby as far as possible from contact with flies. For the infant in the cradle, in the go-cart, on the bed and even in the arms the constant use of metting was insisted on. Over a thousand yards of netting were distributed among the protected families.

"As a result it was found that almost twice (1.9) as many infants were attacked by diarrhea among fly-exposed as among

the fly-protected infants. Apart from the influence of flies, it was found that almost twice as many infants were attacked by diarrhea in dirty homes as in clean homes. The most important factor for child mortality, however, was found to be artificial feeding. Nearly two and a half (2.4) times as many infants were attacked by diarrhea among the artificially fed as among the breast-fed infants. The influence of flies and dirt combined was found to be almost exactly equal to that of artificial feeding, even in reasonably good surroundings. Almost two and a half (2.4) times as many fly-exposed infants in dirty homes were attacked by diarrhea as were fly-protected infants in clean homes. The combination of dirt and artificial feeding made life extremely difficult for the infant."—*North Carolina State Board of Health*.

Summer Typhoids.

What does it profit a person to spend two weeks or a month at a summer resort and then return home and come down with typhoid fever?

People who as a matter of course see that windows in their city homes and offices are properly screened will hie themselves to the country and live for weeks without such protection.

Yet country flies have just as much, if not more opportunity to delve into decaying waste matter and become covered with disease germs, as their city brethren.

Every year the Department of Health issues much information on this subject. No person can plead ignorance. The cause and prevention are fully treated.

Briefly, let us repeat again, get vaccinated against typhoid fever. Play safe on your vacation so you may at least retain your health when returning from your vacation.—*Buffalo Sanitary Bulletin*.

Swat the Fly for Health.

The American public, it is estimated, spends \$10,000,000 yearly to screen its houses against flies. A little care in every home would cut this sum to a small fraction and greatly increase the condition of health. For the fly is credited with being a great disease spreader. Disinfect any stagnant water near your home with petroleum. Keep all garbage screened. Do not

allow decayed fruit or dirty pails or dishes to stand about the premises. Rats and flies will only go where there is food upon which they can feed. Absolute cleanliness about the premises will starve them out. Do not allow water to stand about in a bucket or barrel until it becomes stagnant. Every household in the community should co-operate in this warfare on the flies as one careless homemaker can grow flies enough to supply all the neighbors.—*Health.*

The Art of Keeping Cool.

Keeping cool in hot weather is no easy job. In fact, few people can hold that job down to their own satisfaction. But it is a proposition that we shall be up against for the next two or three months, so we may as well try to make the best of it. Here are some valuable suggestions which have helped others. They may help you.

First of all, don't worry about the hot weather. It is going to come, and all the worry you can do will not make it any cooler. Reconcile yourself to hot weather and nearly half the battle is won.

The next thing to do is to dress for hot weather. Wear light colored, light weight, porous clothing. Remember that tight clothing and tight shoes, particularly in summer, are for a few women only. All men and wise women will leave such things strictly alone.

Plenty of water is really the best thing known for hot weather. Drink lots of it. Bathe yourself in it inside and out. Drink until you perspire freely. It is not a disgrace to perspire. It is an aid to health and comfort. Perspiration on your skin is nature's own way of keeping you cool.

Regulate your diet to fit the season. In hot weather leave off meats, fats, gravies, butter and other heat producers, and eat fruits and vegetables in abundance. By drinking an abundance of water you can keep your sewer system flushed out. Remember, you never will be comfortable, particularly in hot weather, if you are constipated.

—*Press Service, North Carolina State Board of Health.*

Seventy-six out of eighty-seven cases of typhoid fever which occurred in a recent outbreak have been traced by the United

States Public Health Service to infected milk. Had the first case been reported to a trained health officer the outbreak could have been stamped out promptly. When will we learn that disease prevention is sure and cheap?

Investigations have shown that about 75 per cent of all typhoid fever in Florida is transmitted by flies. It follows that this disease could be reduced 75 per cent if flies were not permitted access to excrement containing typhoid germs. It is reasonable to expect that any municipality rigidly enforcing a privy-screening ordinance could reduce typhoid cases one-half, and this has been borne out in one of the largest cities of the State.

Just Make Yourself at Home.

A challenge to decency and good breeding, veiled in the cordial hospitality of a gracious host, is this:

**IF YOU
SPIT ON THE FLOOR AT HOME
SPIT ON THE FLOOR HERE
WE WANT YOU TO FEEL
PERFECTLY AT HOME.**

The sentiment is: No reflection whatever. No sarcasm. If you so freely spit on the floor in our office, in the postoffice, in public halls and public places, or in your church, you surely must spit on the floor at home. The inference is plain. People do with the greatest ease and least thought that which they have formed the habit of doing. Your ease and willingness indicate that you have the habit. Habits are usually formed at home, therefore you must spit on the floor at home.

—*The Pennant.*

IT COULDN'T BE DONE.

"Somebody said it couldn't be done
 But he, with a chuckle, replied
 That "maybe it couldn't but he would be one
 Who wouldn't say so till he tried.
 So he buckled right in, with a trace of a grin
 On his face. If he worried, he hid it,
 He started to sing as he tackled the thing
 That couldn't be done, and he did it.

Somebody scoffed: "Oh, you'll never do that;
 At least no one ever has done it."
 But he took off his coat and he took off his hat,
 And the first thing we knew he'd begun it;
 With a lift of his chin, and a bit of a grin,
 Without any doubting or quit it,
 He started to sing as he tackled the thing
 That couldn't be done and he did it.

There are thousands to tell you it cannot be done;
 There are thousands to prophesy failure;
 There are thousands to point out to you, one by one,
 The dangers that wait to assail you;
 But just buckle in with a bit of a grin,
 Then take off your coat and go to it;
 Just start in to sing as you tackle the thing
 That "cannot be done" and you'll do it."

THE HOUSE INSIDE.

I have a house inside of me;
 A house that people never see;
 It has a door through which none pass,
 And windows, but they're not of glass.
 "Where do you live?" ask folks I meet,
 And then I say "on such a street;"
 But still I know what's really me,
 Lives in a house folks never see.

Sometimes I like to go inside,
 And hide and hide, and hide and hide;
 And "doctor up" my wounded pride
 When I've been "treated rough" outside.

And sometimes, when I've been to blame,
 I go indoors and blush for shame;
 And get my mind in better frame,
 And get my tongue and temper tame.

I meet my Heavenly Father there;
 For He stoops down to hear my prayer
 To smooth my brow and cure my care
 And make me brave to do and dare.
 Then, after I have been made strong,
 And have things right, that were all wrong
 I come outside, where I belong
 To sing a new and happy song.

Then, I can hear the people say
 "You're bright and bonnie good and gay"
 And it's because I feel that way;
 But they don't know the price I pay.

You have a house inside of you,
 Where you can fight your battles too;
 And God will tell you what to do
 And make your heart both kind and true.

—S. W. Grafflin.

REPORT OF STATE BACTERIOLOGIST.

The following table summarizes the work of the laboratory for the second quarter of 1916:

	Tuberculosis (sputum).....	Typhoid (Widal).	Diphtheria.....	Malaria.....	Water (Coli)....	Gonococcal Infections.....	Rabies.....	Tuberculosis (not sputum)...	Miscellaneous...	Total.....
April.....	245	58	30	5	35	10	2	4	125	514
May.....	255	69	13	9	17	11	2	6	42	424
June.....	239	88	11	20	51	13	2	8	14	446
Total.....	739	215	54	34	103	34	6	18	181	
Grand Total.....										1384

The Examinations Conducted By and Preparation of Specimens for Sending to the Laboratory.

Sputum—Specimens of sputum will be examined only when received in containers furnished by the State Board of Health for that purpose. These outfits may be obtained by addressing the State Bacteriologist, Jefferson City, Missouri. Full directions accompany each outfit.

Blood—It is impossible to examine a single specimen of blood for both typhoid and malaria. For the Widal test for typhoid, the blood is best obtained by pricking the lobe of the ear with a flat or a three-cornered needle, or the point of a knife. The ear should first be rubbed with cotton and alcohol, then dried, and the needle should be sterile. Two or three good-sized drops should be collected on filter paper provided by the laboratory for this purpose.

For malaria the blood is obtained in the same way, but must be spread in a thin, even smear on a glass microscope slide. This is done as follows: A small drop of blood is received onto the slide near one end by touching the slide to the blood as it hangs from the lobe of the ear. The slide is then laid on a firm, flat surface, and the end of a second slide, held at an angle

of about thirty degrees with the first slide and touching it, is brought into contact with the drop of blood. In two or three seconds the blood will have run across the slide at the point of contact. Then the second slide is pushed along on the first with a moderate speed, so as to leave a thin, even smear on the surface of the first slide. A second smear may be made in a similar manner on the other slide. Caution: Have slides perfectly clean, handle only by the edges and work rapidly. Allow them to dry in the air without heat.

Blood should never be placed between slides and sent to the laboratory.

Swabs for Diphtheria—The regulation tube and mailing case, to be obtained from the laboratory, should be used for this purpose. Full directions accompany each outfit.

Water—Only such specimens as are taken from public supplies and forwarded by a health officer will be analyzed. The same will be analyzed for the absence or presence of colon bacilli, an index to sewage pollution, and for the total number of bacteria.

For this it is imperative that all samples be iced from the time of taking until they reach the laboratory. For this purpose special containers may be obtained from the laboratory, express charges to be paid both ways by sender of specimens.

Pus—Pus, to be examined for gonococci, should be sent on a slide prepared as follows: A small amount—much less than a drop—should be mixed on the slide with a small drop of water and thinly spread over an area a half inch or more in diameter, and allowed to dry.

In taking a specimen of leucorrheal discharge, the precaution of first giving a douche should always be taken, in order to remove as many as possible of the other bacteria present. The pus may then be expressed from the urethra, or obtained from the cervix by means of a speculum, and the slide properly prepared. Unless this is done, the great numbers of bacteria found normally in the vaginal secretion will so obscure the field as to make a satisfactory examination impossible.

An initial or number may accompany the specimen in place of the patient's name.

Do not press slides together.

Rabies—Unless the animal shows symptoms of rabies, it should not be killed, but should be held for observation, in which event, if positive, death will ensue in a very few days, in ample

time to begin treatment of the patient. Do not kill the animal by a blow or shot in the head, as this may make a proper examination impossible. The head only of the animal should be sent, and that at the earliest possible moment. The head is to be placed in a tin bucket with a tightly fitting cover, which bucket is to be placed in a larger wooden or iron bucket and surrounded by sawdust and iced. The heads of animals freshly killed may be sprinkled with salt, packed in wet sawdust in a strong wooden box and expressed.

Urine—Specimens of urine are examined for tubercle bacilli in suspected cases of genito-urinary tuberculosis.

In sending specimens of urine to be examined for tubercle bacilli, the following points should be carefully noted.

1. The specimen should be obtained by catheter, and drawn directly into a sterile bottle.

2. It should be stated upon the card accompanying the specimen that it was obtained by catheter.

3. Two or four ounces of urine should be sent and no preservative should be used.

Feces—Feces will be examined for tubercle bacilli, and for the ova of intestinal parasites (hookworm).

There is kept on hand a supply of typhoid vaccine for immunization, which is supplied to physicians upon request. When writing for the vaccine, kindly state the number of patients to be immunized, and enclose ten cents in stamps to cover postage.

The anti-rabic treatment as prepared in the laboratories of the American Public Health Service will be administered free of charge to indigent persons of the state, at this laboratory only, and when bearing a statement from the municipal or county authorities that the individual is not able to pay for private treatment. The treatment requires twenty-one days, and should be begun within fourteen days from the time the patient was bitten.

When the treatment is desired the State Bacteriologist should be notified by wire at least three days before the patient arrives in Jefferson City, thus allowing ample time to secure the individual treatment from the laboratory at Washington, D. C.

During the quarter six persons were given the anti-rabic treatment at the laboratory. Five of these came from Springfield and one from Joplin, Mo.

The course in all cases was uneventful and complete, making a total of one hundred and fifty separate administrations.

Letter to the Profession.

Jefferson City, Missouri.

Dear Doctor:

This laboratory is conducted by the State Board of Health as an aid in its control of the public health of the state. Therefore the work undertaken must be of a nature affecting the general public.

In the past more or less accommodation has been extended to work of a private nature, but through increased patronage and limited capacity this must be eliminated; consequently after September 1, 1916, we must refuse for examination all specimens from private sources unless pertaining to contagious diseases. This means that:

Water specimens will be analyzed only when taken from public supplies and when forwarded by a health official.

Such specimens as milk, urine, etc., will be destroyed, and tissue specimens will be returned to the sender.

The preceding pages note the routine of examination. Your attention is kindly called to the distribution of the anti-typhoid vaccine and to the anti-rabic treatment.

It is hoped that the department may receive your co-operation, which is necessary for its success.

Very truly yours,

MISSOURI STATE BOARD OF HEALTH LABORATORY
GEO. H. JONES, M. D., Bacteriologist.

VITAL STATISTICS.

Summary Showing Comparison of Important Causes of Deaths and Registration of Births, during April, May and June, 1916.

Statistics compiled for the second quarter of 1916, April, May and June, show there was a total of 9,958 deaths. Of this number 5,626 were males and 4,332 females; 8,797 white and 961 black.

The month of May showed the greatest number of deaths, 3,422, and June the lowest, 3,173.

Disease of heart heads the list of causes of death for the quarter with 1,283; Pneumonia, 1,104; Tuberculosis of lungs, 1,083; Nervous System, 904; Bright's Disease, 829; Cancer, 559; Accidents, 422; Respiratory system, 294; Diarrhoea and Enteritis (under 2 years of age), 232; other forms of Tuberculosis, 123; Suicides, 123; Puerperal State, 105; Diphtheria and Croup, 98; Diabetes, 96; Homicides, 80; Measles, 73; Typhoid fever, 61; Influenza, 59; Whooping Cough, 50; Scarlet fever, 49; Epidemic Cerebrospinal Meningitis, 21; Acute Anterior Poliomyelitis, 2; Smallpox, 1.

There were 16,618 births reported as having occurred during April, May and June, of which 8,620 were males, 7,998 were females, 16,127 whites and 491 blacks.

It will be noted from the foregoing that there were 6,660 more births than deaths during the quarter.

Table Showing Births Filed With the Central Bureau of Vital Statistics During the Months of April May and June, 1916—By Sex and Color.

Months.	Totals.	Males.		Females.	
		White	Black	White	Black
April.....	5,725	2,865	97	2,674	89
May.....	5,486	2,754	74	2,587	71
June.....	5,407	2,759	71	2,488	89
Totals.....	16,618	8,378	242	7,749	249
Totals by Sex.....		8,620		7,998	

Table Showing Deaths in the State from Twenty-four Important Causes, Filed With the Central Bureau of Vital Statistics During the Months of April, May, and June, 1916. (Stillbirths excluded.)

CAUSES.	April.	May.	June.	Totals.
Typhoid Fever.....	14	22	25	61
Smallpox.....			1	1
Measles.....	32	21	20	73
Scarlet Fever.....	23	19	7	49
Whooping Cough.....	25	13	12	50
Diphtheria and Croup.....	43	24	31	98
Influenza.....	30	22	7	59
Tuberculosis of Lungs.....	367	378	338	1,083
Other forms of Tuberculosis.....	41	46	36	123
Cancer.....	173	191	195	559
Diabetes.....	26	40	30	96
Epidemic Cerebrospinal Meningitis.....	4	9	8	21
Acute Anterior Poliomyelitis.....	1		1	2
Other Diseases of the Nervous System.....	302	307	295	904
Diseases of Heart and Circulatory System.....	417	452	414	1,283
Pneumonia and Bronchopneumonia.....	511	400	193	1,104
Other Diseases of Respiratory System.....	122	100	72	294
Diarrhoea and Enteritis (under 2 years of age).....	33	58	141	232
Acute Nephritis and Brights Disease.....	270	296	263	829
The Puerperal State.....	31	49	25	105
Accidents.....	124	140	158	422
Suicides.....	39	50	34	123
Homicides.....	26	31	23	80
Other Causes.....	709	754	289	1,752
Total.....	3,363	3,422	3,173	9,958

Counties.	Important causes of death.																									Total deaths during the quarter.	Total births during the quarter.	Population, 1910.
	Other causes.	Homicides.	Suicides.	Accidents.	The puerperal state.	Acute Nephritis and Bright's Disease.	Diarrhœa and Enteritis (under 2 years of age).	Other diseases of respiratory system.	Pneumonia, Broncho-pneumonia.	Diseases of heart and circulatory system.	Other diseases of the nervous system.	Acute Anterior Poliomyelitis.	Epidemic Cerebrospinal Meningitis.	Diabetes.	Cancer.	Other forms of Tuberculosis.	Tuberculosis of the lungs.	Influenza.	Diphtheria and Croup.	Whooping Cough.	Scarlet Fever.	Measles.	Smallpox.	Typhoid Fever.				
Adair—																										22,700		
April.																										45	15,282	
May.																										39		
June.																										15		
Totals.																										122		
Andrew—																										5		
April.																										29		
May.																										20		
June.																										14		
Totals.																										69		
Atchison—																										27		
April.																										5	13,604	
May.																										4		
June.																										5		
Totals.																										14		
Audrain—																										15		
April.																										17	21,687	
May.																										22		
June.																										13		
Totals.																										75		

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING.
JUNE 30, 1916—Continued.**

County .	Population, 1910.....	Total b irths during the quarter.....	Total d eaths during the quarter.....	Important causes of death.																									
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....		
St. Joseph—	77,403																												
April.....		116	124	.....	.....	3	1	.....	2	.....	13	.....	9	3	.....	.....	20	12	16	3	1	6	.....	5	2	1	27
May.....		136	120	.....	.....	2	2	.....	2	.....	12	2	6	5	.....	.....	17	17	20	.....	.....	12	.....	1	1	.....	19
June.....		95	88	1	.....	2	.....	1	1	.....	10	.....	.....	.....	.....	.....	12	8	6	1	.....	2	.....	.....	.....	.....	21
Totals.....		347	332	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Butler—	20,624																												
April.....		55	26	1	.....	.....	.....	.....	.....	2	2	2	1	.....	.....	.....	2	4	.....	.....	.....	.....	.....	.....	.....	1	11
May.....		39	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	3	.....	.....	4	1	.....	.....	.....	.....	9
June.....		44	18	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	4	2	.....	.....	.....	.....	.....	8
Totals.....		138	64	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Caldwell—	14,605																												
April.....		29	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	2	2	1	.....	3	.....	.....	.....	.....	.....	6
May.....		24	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2	1	.....	.....	.....	.....	.....	.....	.....	2
June.....		27	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
Totals.....		80	32	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Callaway—	24,400																												
April.....		53	29	.....	.....	.....	.....	.....	1	.....	2	.....	1	.....	.....	.....	5	5	4	1	.....	.....	.....	.....	.....	.....	8
May.....		33	35	1	.....	.....	.....	.....	.....	.....	4	.....	.....	2	.....	.....	3	4	2	.....	.....	.....	.....	.....	.....	.....	14
June.....		27	28	.....	.....	.....	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	9	3	.....	.....	.....	.....	.....	.....	.....	.....	6
Totals.....		113	92	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
JUNE 30, 1916—Continued.

Counties.	Important causes of death.					
	Christian— April. May. June. Totals.	Clark— April. May. June. Totals.	Clay— April. May. June. Totals.	Clinton— April. May. June. Totals.	Franklin— April. May. June. Totals.	Madison— April. May. June. Totals.
Other causes.....	98 30 30 112	32 9 30 71	4 1 1 6	5 1 1 7	6 1 1 8	4 1 1 6
Homicides.....	..	..	..	..	..	..
Suicides.....	..	..	1	..	1	..
Accidents.....	1	1	..	1	2	..
The puerperal state....	..	1	..	..	..	..
Acute Nephritis and Bright's Disease.....	..	..	1	1	2	..
Diarrhoea and Enteritis (under 2 years of age) .	1	1	1	1	1	..
Other diseases of respiratory system.....	1	2	2	2	1	..
Pneumonia, Broncho-pneumonia.....	6 2 1	1	..	2 4 3	4	..
Diseases of heart and circulatory system....	1 3	1 2 8	..	5 3 2	..	..
Other diseases of the nervous system.....	2	1	1	4	3	..
Acute Anterior Poliomyelitis.....	..	..	..	..	..	..
Epidemic Cerebrospinal Meningitis.....	..	..	..	..	..	..
Diabetes.....	..	..	..	..	..	..
Cancer.....	1	2	1	..	..	..
Other forms of Tuberculosis.....	..	..	..	1	..	..
Tuberculosis of the lungs.....	3 1 1	1 1 ..	..	2 3	..	..
Influenza.....	..	..	..	..	..	..
Diphtheria and Croup...	..	..	..	..	1	..
Whooping Cough.....	..	..	..	..	2	..
Scarlet Fever.....	..	..	..	..	1	..
Measles.....	..	..	..	..	..	..
Smallpox.....	..	..	..	..	..	..
Typhoid Fever.....	..	..	..	..	..	..
Total deaths during the quarter.....	21 9 30 11	14 9 18	41	22 26 23	71	17 18 10
Total births during the quarter.....	52 30 30 112	7 17 19	43	33 20 30	83	35 31 23
Population, 1910.....	15,832	12,811	20,302	15,297	..	89

Counties.	Important causes of death.																								Total deaths during the quarter.	Total births during the quarter.	Population, 1910.		
	Other causes.	Homicides.	Suicides.	Accidents.	The puerperal state.	Acute Nephritis and Bright's Disease.	Diarrhœa and Enteritis (under 2 years of age).	Other diseases of respiratory system.	Pneumonia, Broncho-pneumonia.	Diseases of heart and circulatory system.	Other diseases of the nervous system.	Acute Anterior Poliomyelitis.	Epidemic Cerebrospinal Meningitis.	Diabetes.	Cancer.	Other forms of Tuberculosis.	Tuberculosis of the lungs.	Influenza.	Diphtheria and Croup.	Whooping Cough.	Scarlet Fever.	Measles.	Smallpox.	Typhoid Fever.					
Henry —																											27,242	48	22
April.	5		2	1		3			1	1	1				1		5		1				2				30	22	
May.	5									3					3		2										37	21	
June.	4		1							1					1		3	1				1				1	21	37	
Totals.	14		3			3			2	5					5		10	2				2				4	67	115	
Hickory —																											8,741	16	6
April.						2			2		1				1		1										7	16	
May.																											17	7	
June.																											10	4	
Totals.																											43	17	
Holt —																											14,539	27	7
April.																											37	10	
May.																											37	10	
June.																											26	8	
Totals.																											90	25	
Howard —																											15,653	27	23
April.																											26	9	
May.																											26	9	
June.																											16	23	
Totals.																											69	55	

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
JUNE 30, 1916—Continued.

Counties.	Important causes of death.	Other causes																								Total deaths during the quarter		Total births during the quarter		Population, 1910
		Homicides	Suicides	Accidents	The puerperal state	Acute Nephritis and Bright's Disease	Diarrhœa and Enteritis (under 2 years of age)	Other diseases of respiratory system	Pneumonia, Broncho-pneumonia	Diseases of heart and circulatory system	Other diseases of the nervous system	Acute Anterior Poliomyelitis	Epidemic Cerebrospinal Meningitis	Diabetes	Cancer	Other forms of Tuberculosis	Tuberculosis of the lungs	Influenza	Diphtheria and Croup	Whooping Cough	Scarlet Fever	Measles	Smallpox	Typhoid Fever						
Jefferson—	April	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20	51	27,878			
	May	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	29	28					
	June	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	27	46					
	Totals	9	9	9	9	9	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	86	125					
Johnson—	April	7	7	7	7	7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30	38	26,297				
	May	4	4	4	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	26					
	June	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23	42					
	Totals	14	14	14	14	14	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	70	106					
Knox—	April	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	10	28	12,403				
	May	4	4	4	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15	10					
	June	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13	15					
	Totals	7	7	7	7	7	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	35	56					
Laclede—	April	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	50	17,363				
	May	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	43					
	June	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	10	26					
	Totals	9	9	9	9	9	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	30	119					

[illegible]

[illegible]

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
JUNE 30, 1916—Continued.

[illegible]

[illegible]

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
JUNE 30, 1916—Continued.

Counties.	Important causes of death.																									Total deaths during the quarter.....	Total births during the quarter.....	Population, 1910.....
	Other causes.....	Homicides.....	Suicides.....	Accidents.....	The puerperal state.....	Acute Nephritis and Bright's Disease.....	Diarrhoea and Enteritis (under 2 years of age).....	Other diseases of respiratory system.....	Pneumonia, Bronchopneumonia.....	Diseases of heart and circulatory system.....	Other diseases of the nervous system.....	Acute Anterior Poliomyelitis.....	Epidemic Cerebrospinal Meningitis.....	Diabetes.....	Cancer.....	Other forms of Tuberculosis.....	Tuberculosis of the lungs.....	Influenza.....	Diphtheria and Croup...	Whooping Cough.....	Scarlet Fever.....	Measles.....	Smallpox.....	Typhoid Fever.....				
Shelby—	1	5	3	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8	27	14,864	
	1	5	3	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	17	14,864	
	1	5	3	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9	19	14,864	
	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	63	63	14,864	
Totals.....																												
Stoddard—	4	11	8	2	3	2	3	1	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11	96	27,807	
	4	11	8	2	3	2	3	1	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	27	80	27,807	
	4	11	8	2	3	2	3	1	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	26	51	27,807	
	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	227	227	27,807	
Totals.....																												
Stone—	3	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10	38	11,559	
	3	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13	25	11,559	
	3	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	27	11,559	
	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	90	90	11,559	
Totals.....																												
Sullivan—	4	8	3	1	3	2	1	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13	24	18,598	
	4	8	3	1	3	2	1	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	28	46	18,598	
	4	8	3	1	3	2	1	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10	39	18,598	
	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	109	109	18,598	
Totals.....																												

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
JUNE 30, 1916—Continued.**

Counties.	Population, 1910.....	Total b i r t h s during the quarter.....	Total d e a t h s during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup.....	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system.....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhea and Enteritis (under 2 years of age).....	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Worth—	8,007																											1
April.....		4	3															1	1									2
May.....		2	6																									
June.....		14	4								1								1	1								3
Totals.....		26	13																									
Wright—	18,315																											1
April.....		21	7																3									3
May.....		56	19						2										6									5
June.....		26	15			1					2							1	1									
Totals.....		103	41																									
St. Louis City—	687,029																											
April.....		1,109	851	2		4	9	5	13	5	85	7	49	5		1	65	145	133	37	7	84	6	34	11	9	135	
May.....		1,052	953	1		4	8	1	9		98	12	60	5	6		84	150	127	34	18	104	10	32	15	14	161	
June.....		1,144	775	4		4	1		14		84	10	51	3	6		72	135	57	19	10	78	6	37	7	11	165	
Totals.....		3,305	2,579																									
Total for state—																												
April.....		5,725	3,363	14		32	23	25	43	30	367	41	173	26	4	1	302	417	511	122	33	270	31	124	39	26	709	
May.....		5,486	3,422	22		21	19	13	24	22	378	46	191	40	9		307	452	400	100	58	296	49	140	50	31	754	
June.....		5,407	3,173	25	1	20	7	12	31	7	338	36	195	30	8	1	295	414	193	72	141	263	25	158	34	23	289	
Grand Totals..		16,618	9,958	61	1	73	49	50	98	59	1083	123	559	96	21	2	904	1283	1104	294	232	829	105	422	123	80	1752	

MISSOURI STATE BOARD OF HEALTH



QUARTERLY BULLETIN

NEW SERIES

VOL. 6

OCT.-DEC., 1916

No. 4

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BULLETIN OF THE Missouri State Board of Health

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BABY WEEK.

Nineteen hundred and sixteen was Baby Year. That was settled once for all by the two thousand and more communities scattered over every state in the Union which observed the first nation-wide Baby Week. Forty-seven of the 50 cities with more than 100,000 population, and 700 villages and rural communities with less than 2,500 population had Baby Weeks.

The 1917 Baby Week bids fair to be an even bigger, more worth while celebration than last year's, but 1916 will keep the distinction of being the year when each community's provision for the welfare of its babies was generally recognized as a serious civic responsibility.

The Children's Bureau at Washington has already received numerous inquiries concerning the 1917 Baby Week, and the bureau is making the following suggestions:

Have your Baby Week from the 1st to the 6th of May, if possible. This date has been agreed upon by the bureau and the General Federation of Women's Clubs as the time best adapted to the varying conditions of different states.

Remember the older babies. As one woman stated it:

It requires only 12 months for a baby to become one year old and no longer subject to the hazards of "infant mortality," but there are still many risks for him to encounter; he is still absolutely helpless, although increasingly charming, and his parents are as eager to keep him well and happy, as desirous of sound advice, as they were last year. Open out the 1917 Baby Week to include all children still at home with their mothers.

Remember the mothers. Well-cared for, healthy mothers are necessary for the health and happiness of their babies. Find out what your community is doing to ensure to every mother skilled advice and adequate care before her baby is born

and during her confinement, and give the importance of protecting the mother a prominent place in the educational work of the campaign.

And one word to communities where infantile paralysis has been epidemic: Mothers should be urged to leave the baby home during Baby Week. Any feature of the campaign involving the bringing together of numbers of babies must of course be omitted but such features are not essential to the interest and success of a campaign. And Baby Week will afford an excellent opportunity for giving information as to the proper physical training of children with paralyzed muscles.

The Children's Bureau has a bulletin of suggestions for Baby Week campaigns which may be had upon request, and it is now preparing a revised edition describing the interesting new features reported from the 1916 campaigns.

EARLY DISCOVERY OF CANCER.

Yearly Medical Examination Urged for Prevention of Disease.

The American Society for the Control of Cancer is strongly seconding the efforts of the National Association for the Study and Prevention of Tuberculosis to have December 6th set apart as "National Medical Examination Day." Among other observances planned for the day Dr. Harvey R. Gaylord, of Buffalo, director of the New York State Institute for the Study of Malignant Disease will deliver an address on cancer at Minneapolis under the auspices of the "Health and Happiness Week" arranged by the Minnesota Public Health Association in co-operation with other social and civic organizations.

The time is undoubtedly coming when Americans will appreciate the great wisdom of the Chinese policy of paying the doctor to keep the patient well. The rapidly growing movement in favor of an annual medical examination for every person, sick or well, promises much benefit in the reduction of the death rate from cancer as well as that from tuberculosis. In both these very prevalent diseases the hope of cure is very much greater if the ailment be recognized and treated in the earliest stages. Cancer is by no means a hopelessly fatal disease and an ever increasing number of those afflicted are being saved through their intelligent recognition of the danger signals and their

prompt recourse to competent treatment. Undoubtedly many more cases of this disease would be recognized in time for treatment in the early stages, when cure is a comparatively simple matter, if the people were in the habit of consulting their physicians once a year or even at shorter intervals, and having a general physical examination.

Cancer patients are often persons who have generally enjoyed good health, have never been seriously ill and who at the time of the onset of the disease were apparently in robust health. This disease is so insidious in its approach and so often without pain in the first stages that the patient often fails to pay serious attention to the signs of danger. Statistics independently gathered by many surgeons prove that the average cancer patient waits a year or more after observing some suspicious condition before seeking treatment which is then often too late. This disastrous delay is the main if not the sole obstacle to the successful treatment of cancer at the present time.

"Early cancer," says Dr. Charles P. Childe, a prominent English surgeon who has written one of the best popular books on the control of this disease, "produces no feeling of ill health whatever. In other words, early cancer has no symptoms. The reasons which usually induce people to consult a doctor are the suffering of pain or the feeling of ill health. Early cancer produces neither. People are far more likely to go to a dentist with an aching tooth than to a doctor with commencing cancer; they are far more likely to consult a doctor with some trifling derangement of the liver than on account of cancer in its early stages. Owing to the insidiousness of its onset, the victims of cancer are often totally unconscious of the seriousness of the disease which has attacked them. Disaster following on delay through sheer ignorance on the part of the unfortunate sufferers that there was anything seriously the matter with them—these are the everyday experiences of cancer." All good physicians, however, are familiar with the warning signs of the approach of this dangerous disease and if given a chance to examine their patients once a year, especially after the age of thirty, they could undoubtedly save many of them from death before their time.

Keep the Nose and Throat Clean.

It has been thoroughly demonstrated that several of our communicable diseases are transmitted by excretions from the

nose and throat. We know also that many of these diseases enter the system through the nose and throat. It is, therefore, reasonable to believe that if these two air passages are kept thoroughly clean at all times that the danger of infection will be proportionately lessened.

A few years ago the physician in charge of one of our Indian Reservations required the children in the school to thoroughly cleanse their noses, mouths and throats with a simple antiseptic solution, known as Thiersch's Solution. This is a very inexpensive solution and is made in the following manner:

Dissolve one-half teaspoonful salicylic acid, three teaspoonfuls boric acid in one quart of water.

The year after this practice was started three or four children came to the school with whooping cough, but not a single one of the children at the school who had been following this simple precaution contracted the disease. All the children in the school were required to gargle their throats and wash their mouths with this solution and also snuff it through their noses, in this way thoroughly cleansing the air passages.

This is such a simple procedure and the material is so inexpensive that it seems reasonable that every family in the state might follow this simple precaution.

Keep the nose, throat and mouth thoroughly clean and the danger of contracting communicable diseases will, to say the least, be materially reduced.

More Attention Should Be Given to Public Health in Schools.

More attention should be given to health subjects in our public school curriculum. At present physiology is studied by our children and, so far as it goes, is to be commended, but it does not go far enough. A course in public health should be added.

Whatever the object of education is, this much is sure: It is all lost if the individual loses his or her health. All training, technical, professional, manual, domestic science, or what not, evidently is for the purpose of enabling the individual to be able to provide for himself shelter, clothing, food and happiness. Of what avail, however, is this training, this laboriously acquired education, if the individual is not in good health?

It has been carefully estimated that with the knowledge we NOW HAVE, the average life could be lengthened 15 years. Is it not time to disseminate this knowledge so that it may be applied, thereby preventing unnecessary suffering and death?

Going in Debt.

Everyone appreciates the danger of "going in debt." We spend much time teaching our children how debts, once started, rapidly accumulate. One of the first principles of business instilled into every boy and girl is the necessity of living within his or her income.

Life is much of a business proposition. We have a certain amount of energy to expend. Our bodies can stand just a certain amount of work. Whenever we overwork our bodies or expend more energy than the allotted amount, we go into debt to nature and nature's banker never fails to collect. We cannot "borrow years" and not pay them back. The body requires a certain amount of rest. If this amount of rest is not received we "borrow years" from nature's banker. The body requires a certain amount of food and fuel. If the proper amount is not provided we "borrow years" from nature's banker. The engine fireman knows that over-firing of an engine is as detrimental to results as is under-firing. So with our bodies. Over eating is as detrimental as under eating. When we over eat or eat improper foods we endanger the body and thus "borrow years" from nature's banker.

Don't go in debt to nature. You cannot escape nature's debts by going into voluntary bankruptcy. Her bills must be paid.

Taxes on Babies.

Of the 599 American cities with 10,000 or more population, over two-thirds have reported to the Federal Children's Bureau that some kind of work affecting the health of babies is carried on by the municipality from public funds, according to the tabular analysis of Infant-Welfare Work by Public and Private Agencies in the United States which has just been published by the bureau. In twenty cities this work is so highly organized that a special division devoted to child hygiene is included in the city health department.

Cities of every type are found among those reporting special municipal health work for babies. In general it appears that municipal work is more highly developed in large cities than in small, and yet two cities with less than 100,000 population—Duluth, Minn., and Montclair, N. J.—are found among the twenty having a municipal division of child hygiene. The others are Boston, Mass., Buffalo, N. Y., Chicago, Ill., Cincinnati, Ohio, Cleveland, Ohio, Detroit, Mich., Jersey City, N. J., Kansas City, Mo., Los Angeles, Cal., Milwaukee, Wis., Nashville, Tenn., New York, N. Y., Newark, N. J., Philadelphia, Pa., Pittsburgh, Pa., Providence, R. I., Seattle, Wash., Toledo, Ohio.

Babies and mothers are helped by the municipalities in various ways. It is true that 255 cities report milk inspection as the only municipal activity directly affecting babies, but 100 municipalities employ a nurse to visit the homes and teach the mother what to do for her baby, and to help her when the baby is sick. Special municipal nurses are assigned in 63 cities to the care and instruction of prospective mothers. In 60 cities infant-welfare stations are maintained with doctors in attendance, and mothers bring their babies for weighing and examination and advice about feeding and general care. Many cities have both infant-welfare stations and visiting nurses. Classes for instructing older school girls in infant hygiene are conducted by 44 municipalities.

Many state departments of health and extension divisions of state universities also report extensive educational work in child hygiene, such as lending exhibits, lantern slides and films, distributing pamphlets and sending out lecturers, maintaining a regular press service and conducting special campaigns for complete birth registration. Kansas, New Jersey, New York, and Ohio have organized special divisions of child hygiene within the state departments of health. In Massachusetts infant-welfare work is a well-defined feature of the work of the division of hygiene.

This new bulletin of the Children's Bureau is intended not only for health officers and social workers, but for all who are interested in comparing the infant-welfare work in their own communities with that carried on in other places. Copies may be obtained free upon application to the chief of the Children's Bureau, Washington.

Tuberculosis and Poverty.

Poverty and tuberculosis—tuberculosis and poverty! These are the essential facts which force themselves to the attention of every investigator who faces the problem of that disease. The tenement house district of Cincinnati yields a tuberculosis morbidity just three times as great as the areas where better housing prevails. In 197 families in which tuberculosis existed the average monthly income for a family of four was approximately \$57. After paying the pro rate share for food and rent, a balance of \$5.13 remained for each individual to meet all other expenses. Such a low subsistence level works like black magic in the spread of tuberculosis. Moreover, and this is a point over which the public should ponder, the home of the average wage earner was found to be far less sanitary than the average factory and workshop. In regard to all the factors which make for healthful living, ventilation, sufficient light, proper temperature and freedom from overcrowding, the score was in favor of the factory in nearly every instance.

The city of Cincinnati realized that her tuberculosis death rate was 50 per cent above the average and that it had failed to manifest a tendency to decline. She felt no qualms in making this admission. Rather, she determined that she would learn why. With an efficient health department and favorable climatic influences, she was suffering from twice the mortality from that disease as her neighbor, Pittsburgh. Accordingly the United States Public Health Service was requested to make a thorough study of the situation and submit a report. To show that something more than mere academic interest obtained, 19,932 workers in 154 factories of the city voluntarily submitted to a physical examination.

The conclusions reached, point directly to the close connection between poverty and tuberculosis. The great factor underlying the entire problem was seemingly that of economic conditions. One-sixth of all tuberculosis cases came from cheap lodging houses. Alcoholism was a prominent cause, and often accelerated the course of the disease. Occupational hazards and bad working conditions were apparently responsible for about 20 per cent of the cases, but in the majority of instances these hazards were not necessarily inherent in the occupation. Previous tuberculosis in the family occurred in practically a third of all the cases investigated. Dissipation, overcrowding,

bad housing, and innate lack of personal responsibility, were also listed as causes.

An interesting feature of the report, and one which has not previously been dwelt upon in studies of this character, relates to the effect of immigration and the rate of growth of the population of a city upon the tuberculosis death rate. It is shown that cities with a population composed largely of racial stock having a limited resistance to tuberculosis are subject to a high mortality rate from that disease, while centers having a slow rate of population increase are likewise subject to a high tuberculosis rate. The evidence is submitted in a comparative table covering sixteen American cities. Almost without exception those with a high percentage of Irish, Scandinavian and German stock, and those in which the negro population is relatively large, have a correspondingly high mortality, while those where the Italian and Jewish element is proportionately great have a low tuberculosis death rate. Similarly, such cities as Detroit and Cleveland, with high rates of population increase, show a low tuberculosis mortality, while Cincinnati and Baltimore with a relatively small population increase have a high tuberculosis rate. Doubtless the true explanation of this discrepancy is that advanced by the authors, namely, that where the population increase is rapid new buildings are erected to take the place of old insanitary structures and better housing conditions prevail.

Died of the Disease that They had Given the Most Attention.

It is a remarkable fact, confirmed by many observations, that many physicians who have devoted considerable labor to the study of a particular disease have themselves died of that disease. One of the most interesting examples is that of John Daniel Major, born August 16, 1634, in Breslau, a physician and naturalist of no mean ability. Bitten early by the wanderlust, he studied at Wittenburg, took courses at many of the schools in Germany, and finally went to Italy where he received the degree of doctor of medicine at Padua in 1660. Returning to his own country, he resided for a short time in Silesia, and in 1661 married at Wittenburg, Margaret Dorothy, a daughter of the celebrated Sennert. The following year, his young wife was stricken with plague and died after an illness of eight days.

Distracted by his loss, Major wandered up and down Europe studying plague wherever he found it in the hope that he might discover a cure for the disease which had bereaved him. Spain, Germany, France and Russia were visited by him. He settled in 1665 in Kiel, where he was made professor of botany and the director of the botanical gardens. He made frequent voyages, however, always in quest of the remedy for plague. Finally in 1693, he was called to Stockholm to treat the queen of Charles the Eleventh, then ill with plague. But before he could render her any service, he contracted the disease and died on the third of August.

The bubonic plague of today is identical with the black death of the Middle Ages. Primarily a disease of rodents caused by a short dumb-bell shaped microscopic vegetable, the pest bacillus, it occurs in man in three forms; the pneumonic, which has a death rate of almost 100 per cent; the septicaemic, which is nearly as fatal, and the bubonic in which even with the most modern methods of treatment the mortality is about 50 per cent. It is a disease of commerce, spreading around the globe in the body of the ship-borne rat. It is estimated that every case of human plague costs the municipality in which it occurs at least \$7,500. This does not take into account the enormous loss due to disastrous quarantines and the commercial paralysis which the fear of the disease so frequently produces.

The disease is now treated by a serum discovered through the genius of Yersin. This is used in much the same way as is diphtheria antitoxin.

PRESIDENT'S ADDRESS.

Some Remarks on the Present Status of Public Health Work.

Dr. E. G. Williams, Virginia.

In this year, 1916, there is more reason than ever why our conference should pause to consider the public health situation, its opportunities and its responsibilities. Nearly all of the civilized world is at war, the aim of which is destruction. The inventive geniuses of the nations are devising methods by which human life can be most effectively destroyed. The United States, represented so largely in this Conference, now stands as the most influential nation in upholding the civilization of the world, and this Conference represents the activities of the component units of the nation in the conservation of human life. The development

of the agencies for conserving the health and strength of our fellow beings is our responsibility.

Our generation has witnessed greater changes than any other in the history of the world. Every line of human endeavor has been revolutionized by the discoveries and inventions of our time. In no line, however, has there been greater development than in ours—the conservation of human life. We have seen public health work undergo a metamorphosis from well-meaning, ill-defined and semi-superstitious practice to the basis of an exact science, characterized by methods of precision. It has not been long since epidemics were combated by such measures as the sprinkling of lime and copperas along the streets and white-washing the mouths of sewers.

It behooves us as the executives of the health departments to be duly appreciative of the recent discoveries and to change and reorganize our methods and forces in order to secure a maximum degree of efficiency in the practical application of the new knowledge.

We have witnessed the evolution of the duties of a board of health. At first they embraced all those duties that a graduate of medicine could render the public by reason of his special knowledge, such as looking after epidemics, the treatment of contagious diseases, the care of indigents at their homes and in institutions, the care of prisoners in jails, and the examinations of candidates for license to practice medicine. As so little was known about causes of diseases, slight attention was paid to improving sanitary conditions except at the time of an epidemic. With increase in knowledge, there has naturally come the specialization of official duties and a more definite limitation of the duties of the board of health. There has been separately organized out of the board of health the board of charities and the board of medical examiners.

One of the most hopeful signs of the times is the awakened appreciation on the part of the people as to what public health work means to them. They are taking a more active part in developing the agencies for promoting good health. As individuals and in organizations and corporations they are actuated not only by humanitarian motives, but also by good sound business principles. In witness of this we see the organization of the Life Extension Institute, the interest of life insurance companies in public health, and the building of model mill and mining towns.

It is being realized that preventive medicine is an independent science, having much in common with the practice of medicine, but covering also many things not taught in medical schools and not practiced by physicians. Many of our best health workers are not graduates of medicine. So great has the field of prevention developed in its intensity and variety that there are specialists in public health of widely different training, and health workers whose labor differs widely in skill. The diagnostician and the medical school inspector must have the education of a doctor of medicine. The sanitary engineer, an essential factor in state health work, must have training in a technical school. The bacteriologist and the epidemiologist are not efficient because of their expert knowledge of medicine or engineering—the one must be an expert in biology and laboratory technique, while the other must combine with the same kind of knowledge a great deal of those qualifications more commonly associated with the work of a detective, while the head of the department should have considerable training along all the above lines, and also the same kind of executive ability demanded for leaders in any line of activity.

Public health work, having for its object the prevention of sickness and raising the standard of health, is far reaching in its scope. There are few things that do not in some way affect the health of the people and their tendency to sickness. It is manifestly impossible for a health department to attempt to regulate all those factors which may be even vitally concerned in the prevention of sickness. It must confine itself to the more direct factors. Pasteur gave the keynote for modern health work when he, reflecting on the epoch-making discoveries of himself and others, declared that "It is possible to make all parasitic diseases disappear from the earth." It has been with this as a cornerstone that our health departments have been reconstructed. The amount of sickness and the number of deaths due to parasites constitute a very large part of the total. The prevention of parasitic diseases would seem to be a field sufficiently large for the activities of one department of the state government.

These diseases vary in their prevalence and in our ability to prevent them. Fortunately, however, there are certain characteristics common to nearly all the disease-producing parasites with which the health officer has to contend, namely; they multiply and proliferate practically only in the human body and weaken or perish soon after leaving the body. We can thus build upon

the premises that a communicable disease can only be contracted by getting into the body the parasites that have come from the body of someone else. This principle, so simple that even a child can comprehend it, is yet the very foundation on which is based our measures for the control of the communicable or parasitic diseases. It is the primal instinct which even some animals seem to possess as evidenced by their efforts to cover up their excrement. Yet it required years of research and investigation by the greatest scientists before the simple truth was recognized which our instinct should naturally have dictated in the beginning. This simple instinctive truth is that what is discharged from the human body is dangerous.

In the organization of health work, the first points to be determined are the relative prevalence and importance of the parasitic diseases and the relative ability to prevent them.

In considering the prevention of these diseases, it is obvious that some may be prevented by enforcement of laws and that others can only be prevented by the actions or habits of the individual, which no law or health officer can control, being affected only by training and education. For example, the disposal of excrement can be controlled by law, but the sneezing and coughing of a person in the presence of others can only be controlled by the individual. It is clear then that the two weapons that must be used in the prevention of sickness are education and law. The greatest of these is education, both because of its direct results to enable individuals to look after their own health and also because proper laws will not be enacted without the education of at least a small number and the enforcement of the laws will not be accomplished without the education of a still larger proportion of the people.

As we all know, the parasitic diseases are dependent for their development upon two factors, the parasite and the bodily resistance. The bodily resistance is affected by everything connected with man's environment and manner of life, such as occupation, clothing, cost of living, social status, wage scale, housing, quality, variety and preparation of food and many other conditions which it is manifestly impossible for a health department or health officer to control except possibly through educational work. The principal field, then, for the health worker is to endeavor to prevent transmission of the parasites.

As already indicated, the human body is the breeding place and consequently the source of our disease producing parasites.

We can then, from the standpoint of prevention, recognize several classes of preventable diseases based on the way in which the parasite leaves the body; as from the mouth and nose, from the bowels, from the genito-urinary passages, from the skin, and by suctorial insects.

The group carried by the secretions of the nose and mouth may be subdivided into those in which the germ-laden secretion is forcibly thrown out by coughing and sneezing, to be borne by the air to other persons in addition to being conveyed from one to another on material objects, and those diseases which are not accompanied by coughing and sneezing.

Let us now consider the relative value of the two weapons—education and law—in the prevention of the diseases of the several classes above outlined.

Many diseases in which the germs are in the secretions of the mouth and nose which may be expelled by coughing and sneezing, as bad colds, grippe and tuberculosis, on account of their extensive prevalence are not generally quarantinable under the law. Even cases of measles and whooping cough in which the law requires quarantine cannot be prevented by this measure alone, as the most contagious stage is well advanced before the nature of the disease is recognized. Furthermore, many cases of these diseases are not brought to the attention of the health officer or even a physician. If then these so-called air-borne diseases are to be prevented, the precautions to prevent the germs getting to others must be taken by the patient. This will only be done by educating individuals, and inculcating such simple habits as covering the nose and mouth or turning the face downward when coughing and sneezing. Education is our chief dependence in preventing the distribution of germs by coughing and sneezing.

In other diseases in which the germs are in the secretions of the mouth and nose and in which they are not expelled by coughing or sneezing but must be mechanically carried, the law can be of value in quarantining the known cases and in prohibiting the common drinking cup in public places. Diphtheria and scarlet fever, representative diseases of this class, can be prevented only to a very small extent by quarantining, as we have reason to believe that the recognized cases of these diseases, like the visible part of an iceberg, constitute only a small proportion of the volume of the unrecognized cases and carrier cases.

The germs in this class of diseases, not being forcibly expelled from the mouth and nose, are not found floating in the air and therefore are not taken in by breathing. In order for them to get into the mouth and nose, they must be conveyed there on something soiled with the nose or mouth secretions of others. The most important factor in preventing these diseases is to keep people from putting into their mouth anything unnecessary, and particularly those things that may be soiled by secretions of others. This cannot be done by law but by education, and especially by the training of children to right habits in their early years. In the consideration of the prevention of the diseases of the class spread by the discharges of nose or mouth, we reach the conclusion that education is a far more important factor than law.

The second class of diseases are those in which the parasites leave the body by the bowel discharges. These diseases can be absolutely prevented by prompt and safe disposal of human excreta. As a community improves its disposal of excreta there is a corresponding reduction of these excrement-borne diseases. In other cities, the sewerage is in the control of the officials and the householders are made to comply to the legal requirements. In rural communities, such matters are left with the householder and he disposes of the human excreta in accordance with his education, intelligence or previous training. There are usually no legal requirements for sewage disposal in rural sections and, even where there is a state law, it is too often not enforced. The natural law of self-preservation is more effective than the law of the land. We thus see that while law is a great factor in the control of excrement-borne diseases, education of the individual is of very great importance and is even essential.

In regard to those diseases due to suctorial insects, as the mosquito, the control is by war against the insect and by destroying the parasite in the carrier. By law, large breeding places as swamps and streams can be gotten rid of, and the small ones in a community, as rain barrels and gutters, can be ferreted out, but the task will be well-nigh impossible without the intelligent co-operation of the individual citizens on whose premises the worst breeding places may be found. Furthermore, neither law nor the health officers will make the carrier take his quinine unless he appreciates the reason why he is taking the medicine so long

after he is apparently well. Here again law can help, but education is of paramount importance.

Since the prevention of sickness, the aim of public health work is to such a great extent dependent upon the education of the individual person, it does seem that our schools, public and private, should more fully realize their opportunity and responsibility and give at least the rising generation the knowledge that will protect them against so many of the troubles of life that would otherwise befall them. Our hope lies with the coming generation for the really complete development of public health work and the thorough use of our knowledge of the causes of disease for the people's benefit to the same extent that a surgeon uses the knowledge of causes of infection for the benefit of his patients.

We cannot expect all the older members of this generation to use fully the new knowledge. They are too well satisfied with the ways of their forefathers and the weeds of ignorance are too dense for the seed of truth to take root.

Our schools generally teach hygiene and sanitation, and the textbooks have been steadily improved, but it is doubtful if the schools sufficiently inculcate those very simple habits in regard to coughing, sneezing and putting things in the mouth, which too often determine the incidence of infection. Too often also our rural schools do not by example teach the necessity of sanitary disposal of excrement.

Happily, however, these conditions are rapidly improving and the schools are teaching more and more by precept and by example, giving instruction and inculcating right habits. When the schools fully do their part, it will not be necessary for the public health departments to engage so largely in educational work that has to be done at the present time for the benefit of those who have grown up since the new information has been discovered.

The time is approaching when the people will realize what great results can be accomplished by using the knowledge about prevention. The present methods are somewhat analogous to attempting to build the Panama Canal by pick and shovel work—it might have been done, but it would have taken a long while. So it will take a long time to eradicate even the most preventable diseases, according to the present plans and methods, but none of us doubts that typhoid can be eradicated in a very few years by strict enforcement of law for safe disposal of human excre-

ment and proper bedside directions. Any of us would gladly submit plans and specifications and undertake a contract for the eradication of typhoid in three to five years if given the necessary authority, and at a cost of less than ten per cent of what typhoid is now costing the people.

It is within the realm of possibility for a city or a state to eradicate diseases of certain kinds within its limits, but even if this should be done, new cases may be brought in from the outside. It is for this reason advisable that a campaign against any communicable disease should be conducted simultaneously with campaigns in adjoining states or communities. It is about time that we state officers should all be joining in a definite movement for the eradication of those diseases which we know can most easily be done. For instance, in our state the number of cases of typhoid fever in the last seven years has been reduced 59 per cent. This leads us to believe that, with a proper campaign, this disease can be eliminated. But, even though it should be eliminated once, there would be doubtless new cases from our neighbors unless it should also be eradicated from them. Why can we not all unite in drawing up and carrying out plans for a simultaneous campaign against typhoid all over the country and drive it out as we know can be done?

This should not be so great an undertaking when the value of the results is considered. By strict enforcement of the law requiring safe disposal of excrement and proper bedside precautions, the disease should promptly disappear.

With typhoid fever driven out, as should readily be done in a few years, the eradication of diphtheria could then be undertaken. It should not be a very difficult matter to eliminate it if the campaign is undertaken at the season of the year when diphtheria is at its minimum. By careful quarantine and search for carriers in the neighborhood, at that season, the foci from which the disease is spread would be gotten rid of.

According to the morbidity statistics in Virginia for the last seven years, the minimum number of cases of diphtheria occurs uniformly in June and the maximum in October. The disease apparently spreads from the foci which exist at the minimum season. The average number in June has been 1.5 per cent of the average total for the year and 8.2 per cent of the number of cases during the month of October. It would seem that a campaign to be most effective at the least cost should be pushed most actively and intensely in June.

It, therefore, seems highly important that we health workers should endeavor to restrict or concentrate our resources and energies to those directions in which we believe we can accomplish great results and win great victories. With each victory, the people will have more confidence in public health work and will more readily give the support needed for winning victories over other diseases.

At present time, the greatest public health agitation is against tuberculosis, not because more is known about the control of the disease, but because of its relatively great prevalence. Yet no one believes that the eradication of tuberculosis can be accomplished within less than one or two generations. As we believe that typhoid fever, intestinal parasites, as hookworm and roundworm, much of the summer diarrhoea, dysentery and diphtheria can be practically eradicated in a comparatively short time, would it not be wise for us to devote more attention to the elimination of these easily preventable diseases, and, when they are conquered, to concentrate our energies for the subjugation of those less easily overcome?

Now, in conclusion, the suggestions I have attempted to urge are:

1. The scope of health work should be more accurately defined and limited to the most practical lines.

2. Public health educational work should be very actively continued until it is taken up by the public and private schools in a manner commensurate with its importance and value to the individual.

3. Campaigns for the complete eradication of the more easily preventable diseases, like typhoid and diphtheria, should be conducted simultaneously in adjoining communities, adjoining states, or throughout the nation, according to well defined plans and specifications.

Beware the Stirring Tale—It's an Emotional Bonfire, Destroying Incentive, a Psychologist Says.

When you launch yourself into an entertaining magazine tale of achievement you unconsciously translate yourself into the hero or heroine and zip! you have burned up the materials of personal incentive in one vast bonfire of the emotions. That's the great American ailment, according to Dr. David Orr Edson, the psychologist. Doctor Orr, following the meeting of scientists

in New York the other day, explained German *kultur* as it differed from the psychological attributes of other peoples, especially Americans.

According to Doctor Orr, the Germans have, more nearly than any other people, dispensed with their emotions. The ruthless reality with which they have replaced their emotions is what the world now knows as *kultur*. And, according to Doctor Orr, it points the direction in which the race is being hurled.

"Among students of mental phenomena emotions have long been known to hold the greatest of all of the destroying agents of heroic deeds and, without doubt, physical achievements as well, Doctor Orr said. "Anger, joy and pity, the goal of our actors and writers, are the utter destruction of the psychic material which otherwise would find its exit in deeds."

Ten Good Resolutions.

(From the Toledo Blade.)

If you made these resolutions and live up to them, 1917 will be the brightest year of your life, Health Commissioner Selby says:

- Eat less.
- Chew more.
- Worry less.
- Walk more.
- Smoke less.
- Exercise more.
- Drink less.
- Enjoy life more.
- Make money less.
- Make health more.

Examination and Board Meeting.

The next examination for license as physician will be held at the Jefferson Hotel, St. Louis, Mo., March 26, 27, 28, 1917.

The examination for midwives will be held at the same place on the 28th of March.

On the 29th the entire board will meet for the transaction of business which may come before it.

No Place to Go.

The happiest nights
 I ever know
 Are those when I've
 No place to go,
 And the missus says
 When the day is through:
 Tonight we haven't
 A thing to do."

Oh! the joy of it,
 And the peace untold
 Of sitting around
 In my slippers old,
 With my pipe and book
 In my easy chair,
 Knowing I needn't
 Go anywhere.

Needn't hurry
 My evening meal
 Nor force the smiles
 That I do not feel,
 But can grab a book
 From a near-by shelf,
 And drop all sham
 And be myself.

Oh! the charm of it
 And the comfort rare;
 Nothing on earth
 With it can compare;
 And I'm sorry for him
 Who doesn't know
 The joy of having
 No place to go.

“The Name of France.”

Dr. Henry Van Dyke, retiring ambassador to The Hague, has written a poem, “The Name of France,” dedicated to France. It is reprinted from the Art World:

Give us a name to fill the mind,
 With the shining thoughts that lead mankind,
 The glory of learning, the joy of art
 A name that tells of a splendid part
 In the long, long toil and the strenuous fight
 Of the human race to win its way
 From the ancient darkness into the day
 Of freedom, brotherhood, equal right—
 A name like a star, a name of light.
 I give you France!

Give us a name to stir the blood
 With a warmer glow and a swifter flood,
 At the touch of a courage that conquers fear—
 A name like the call of a trumpet, clear,
 And silver sweet and iron strong,
 That brings three million men to their feet
 Ready to march and steady to meet
 The foe who threatens that name with wrong—
 A name that rings like a battle song,
 I give you France!

Give us a name to move the heart,
 With the strength that noble griefs impart—
 A name that speaks of the blood outpoured
 To save mankind from the sway of the sword—
 A name that calls the world to share
 The burden of sacrificial strife
 Where the cause at stake is the world's free life
 And the rule of the people everywhere—
 A name like a vow, a name like a prayer—
 I give you France!

Under the Skin of Men.

Did you ever sit down and talk with men
 In a serious sort of way,
 On their views of life, and ponder then
 On all that they have to say?
 If not, you should in some quiet hour;
 It's a glorious thing to do:
 For you'll find that back of the pomp and power
 Most men have a goal in view.

They'll tell you then that their aim is not
 The clink of the yellow gold;
 That not in the worldly things they've got
 Would they have their stories told.
 They'll say the joys that they treasure most
 Are their good friends, tried and true.
 And an honest name for their own to boast
 And peace when the day is through.

I've talked with men and I think I know
 What's under the toughened skin.
 I've seen their eyes grow bright and glow
 With the fire that burns within.
 And back of the gold and back of the fame,
 And back of the selfish strife,
 In most men's breasts you'll find the flame
 Of the nobler things of life.

REPORT OF STATE BACTERIOLOGIST.

The following table summarizes the work of the laboratory for the fourth quarter of 1916:

	Tuberculosis (sputum).....	Typhoid (Widal).	Diphtheria.....	Malaria.....	Water (Coil)....	Gonococci Infections.....	Rabies.....	Tuberculosis (not sputum)...	Miscellaneous...	Total.....
October.....	152	140	76	12	23	13	.....	1	7	424
November.....	161	89	84	24	31	10	1	.....	8	408
December.....	173	81	85	4	11	13	1	3	10	381
Total.....	486	310	245	40	65	36	2	4	25	.....
Grand Total.....										1,213

The Examinations Conducted By and Preparation of Specimens for Sending to the Laboratory.

Sputum—Specimens of sputum will be examined only when received in containers furnished by the State Board of Health for that purpose. These outfits may be obtained by addressing the State Bacteriologist, Jefferson City, Missouri. Full directions accompany each outfit.

Blood—It is impossible to examine a single specimen of blood for both typhoid and malaria. For the Widal test for typhoid, the blood is best obtained by pricking the lobe of the ear with a flat or a three-cornered needle, or the point of a knife. The ear should first be rubbed with cotton and alcohol, then dried, and the needle should be sterile. Two or three good-sized drops should be collected on filter paper provided by the laboratory for this purpose.

For malaria the blood is obtained in the same way, but must be spread in a thin, even smear on a glass microscope slide. This is done as follows: A small drop of blood is received onto the slide near one end by touching the slide to the blood as it hangs from the lobe of the ear. The slide is then laid on a firm, flat surface, and the end of a second slide, held at an angle

of about thirty degrees with the first slide and touching it, is brought into contact with the drop of blood. In two or three seconds the blood will have run across the slide at the point of contact. Then the second slide is pushed along on the first with a moderate speed, so as to leave a thin, even smear on the surface of the first slide. A second smear may be made in a similar manner on the other slide. Caution: Have slides perfectly clean, handle only by the edges and work rapidly. Allow them to dry in the air without heat.

Blood should never be placed between slides and sent to the laboratory.

Swabs for Diphtheria—The regulation tube and mailing case, to be obtained from the laboratory, should be used for this purpose. Full directions accompany each outfit.

Water—Only such specimens as are taken from public supplies and forwarded by a health officer will be analyzed. The same will be analyzed for the absence or presence of colon bacilli, an index to sewage pollution, and for the total number of bacteria.

For this it is imperative that all samples be iced from the time of taking until they reach the laboratory. For this purpose special containers may be obtained from the laboratory, express charges to be paid both ways by sender of specimens.

Pus—Pus, to be examined for gonococci, should be sent on a slide prepared as follows: A small amount—much less than a drop—should be mixed on the slide with a small drop of water and thinly spread over an area a half inch or more in diameter, and allowed to dry.

In taking a specimen of leucorrheal discharge, the precaution of first giving a douche should always be taken, in order to remove as many as possible of the other bacteria present. The pus may then be expressed from the urethra, or obtained from the cervix by means of a speculum, and the slide properly prepared. Unless this is done, the great numbers of bacteria found normally in the vaginal secretion will so obscure the field as to make a satisfactory examination impossible.

An initial or number may accompany the specimen in place of the patient's name.

Do not press slides together.

Rabies—Unless the animal shows symptoms of rabies, it should not be killed, but should be held for observation, in which event, if positive, death will ensue in a very few days, in ample

time to begin treatment of the patient. Do not kill the animal by a blow or shot in the head, as this may make a proper examination impossible. The head only of the animal should be sent, and that at the earliest possible moment. The head is to be placed in a tin bucket with a tightly fitting cover, which bucket is to be placed in a larger wooden or iron bucket and surrounded by sawdust and iced. The heads of animals freshly killed may be sprinkled with salt, packed in wet sawdust in a strong wooden box and expressed.

Urine—Specimens of urine are examined for tubercle bacilli in suspected cases of genito-urinary tuberculosis.

In sending specimens of urine to be examined for tubercle bacilli, the following points should be carefully noted.

1. The specimen should be obtained by catheter, and drawn directly into a sterile bottle.

2. It should be stated upon the card accompanying the specimen that it was obtained by catheter.

3. Two or four ounces of urine should be sent and no preservative should be used.

Feces—Feces will be examined for tubercle bacilli, and for the ova of intestinal parasites (hookworm).

There is kept on hand a supply of typhoid vaccine for immunization, which is supplied to physicians upon request. When writing for the vaccine, kindly state the number of patients to be immunized, and enclose ten cents in stamps to cover postage.

The anti-rabic treatment as prepared in the laboratories of the American Public Health Service will be administered free of charge to indigent persons of the state, at this laboratory only, and when bearing a statement from the municipal or county authorities that the individual is not able to pay for private treatment. The treatment requires twenty-one days, and should be begun within fourteen days from the time the patient was bitten.

When the treatment is desired the State Bacteriologist should be notified by wire at least three days before the patient arrives in Jefferson City, thus allowing ample time to secure the individual treatment from the laboratory at Washington, D. C.

Blanks for obtaining diphtheria antitoxin at reduced prices for use in indigent cases may be obtained from the laboratory.

VITAL STATISTICS.

Summary Showing Comparison of Important Causes of Deaths and Registration of Births During October, November and December, 1916.

Statistics compiled for the last quarter of 1916, October, November and December, show there was a total of 10,417 deaths. Of this number 5,785 were males and 4,632 females; 9,565 white and 852 black.

The month of December showed the greatest number of deaths, 3,962, and November the lowest, 3,178.

Disease of the heart heads the list of causes of death for the quarter with 1,328; pneumonia, 1,149; tuberculosis of lungs, 979; Brights disease, 882; nervous system, 838; cancer, 618; accidents, 490; diarrhoea and enteritis (under two years of age), 292; respiratory system, 277; typhoid fever, 218; diphtheria and croup, 200; suicides, 129; other forms of tuberculosis, 117; homicides, 101; diabetes, 97; puerperal state, 88; influenza, 47; whooping cough, 35; scarlet fever, 16; measles, 10; epidemic cerebrospinal meningitis, 9; acute anterior polionyelitis, 5; smallpox, 2.

There were 17,256 births reported as having occurred during October, November and December of which 8,861 were males; 8,395 were females. 16,730 were white; 526 were black.

It will be noted from the foregoing that there were 6,839 more births than deaths during the quarter.

C. J. KAISER,
Chief Statistician.

Table Showing Births Filed With the Central Bureau of Vital Statistics During the Months of October, November and December, 1916—By Sex and Color.

Months.	Totals.	Males.		Females.	
		White.	Black.	White.	Black.
October.....	5,513	2,752	84	2,603	74
November.....	5,356	2,636	92	2,547	81
December.....	6,387	3,177	120	3,015	75
Totals.....	17,256	8,565	296	8,165	230
Total by Sex.....		8,861		8,395	

Table Showing Deaths in the State From Twenty-Four Important Causes, Filed With the Central Bureau of Vital Statistics During the Months of October, November and December, 1916. (Stillbirths Excluded.)

CAUSES.	Oct.	Nov.	Dec.	Totals.
Typhoid Fever.....	79	79	60	218
Smallpox.....		1	1	2
Measels.....		1	9	10
Scarlet Fever.....	2	4	10	16
Whooping Cough.....	11	9	15	35
Diphtheria and Croup.....	61	76	63	200
Influenza.....	3	7	37	47
Tuberculosis of Lungs.....	287	325	367	979
Other forms of Tuberculosis.....	26	50	41	117
Cancer.....	207	187	224	618
Diabetes.....	26	25	46	97
Epidemic Cerebrospinal Meningitis.....	2		7	9
Acute Anterior Poliomyelitis.....	2	2	1	5
Other Diseases of the Nervous System.....	259	239	340	838
Diseases of the Heart and Circulatory System.....	409	396	523	1,328
Pneumonia and Bronchopneumonia.....	230	354	565	1,149
Other Diseases of Respiratory System.....	80	75	122	277
Diarrhoea and Enteritis (under 2 years of age).....	159	70	63	292
Acute Nephritis and Brights Disease.....	298	272	312	882
The Puerperal State.....	19	28	41	88
Accidents.....	176	153	161	490
Suicides.....	37	47	45	129
Homicides.....	34	33	34	101
Other Causes.....	870	745	875	2,490
Total.....	3,277	3,178	3,962	10,417

Births and Deaths Reported in Missouri (Stillbirths not Included) During the Quarter Ending December, 1916.

Counties.	Important causes of death.				Total deaths during the quarter.....	Total births during the quarter.....	Population, 1910.....
	Other causes.....	Homicides.....	Suicides.....	Accidents.....			
Adair—							
October.....	5	..	..	..	10	35	22,700
November.....	5	..	..	..	22	32	..
December.....	4	1	..	..	20	42	..
Totals.....	..	..	..	..	52	109	..
Andrew—							
October.....	3	..	..	..	8	25	15,282
November.....	4	..	..	1	9	15	..
December.....	4	..	..	1	13	28	..
Totals.....	..	..	..	..	30	68	..
Atchison—							
October.....	5	..	..	..	7	18	13,604
November.....	3	..	..	..	5	10	..
December.....	2	..	..	..	6	17	..
Totals.....	..	..	..	..	18	45	..
Audrain—							
October.....	5	1	..	..	12	19	21,687
November.....	6	2	..	..	16	21	..
December.....	8	..	..	..	22	24	..
Totals.....	..	..	..	..	50	64	..

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER, 1916—Continued.

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhoea, and Enteritis (under 2 years of age).	Bright's Disease.....	The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Barry	23,869																											
October.....		29	14	1						2	1	1						2	1	1	1							4
November.....		31	32	2				3		1	2							1	3	1	2							6
December.....		23	17					1		1							2	3	1	1								5
Totals.....		83	63																									
Barton—	16,747																											
October.....		15	8	1							1	1									1	3						4
November.....		19	14							1								1		1	1	3	1		1			2
December.....		38	13							1		1						2	3			3						3
Totals.....		72	35																									
Bates—	25,869																											
October.....		44	22	1							1	3					3	1			1	3						8
November.....		31	24							1	1	2	1				3	2	1									8
December.....		28	24							1	1						3	3	1			3			1			7
Totals.....		103	70																									
Benton—	14,881																											
October.....		25	9									1						1		1	1							5
November.....		13	5															2	1									1
December.....		26	11									1					1			1		1	1					4
Totals.....		64	25																									

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER, 1916—Continued.

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhoea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Camden—	11,582																											
October.....		15	4									1																3
November.....		17	6									1																2
December.....		29	9	1					2			1						1										2
Totals.....		61	19																									
Cape Girardeau...	27,621																											
October.....		57	30							1	5			1				2	2	1		3						14
November.....		55	43								1	1		6				6	4		4							12
December.....		72	33		1					2			1				3	3	2		2		1					10
Totals.....		184	106																									
Carroll—	23,098																											
October.....		40	24									4	2	5			3	1	1	1	2							4
November.....		28	14									3						2										3
December.....		53	26									1	1	2				4	1		5							12
Totals.....		121	64																									
Carter—	5,504																											
October.....		5	2																									2
November.....		9	2									1		1														
December.....		12	4	1																		1						2
Totals.....		26	8																									

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BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER, 1916—Continued.

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup.....	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhoea and Enteritis (under 2 years of age).....	Acute Nephritis and Bright's Disease.....	The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Cole—	10,107																											
October.....		17	4																									2
November.....		18	2																	1								1
December.....		25	4								1						2											2
Totals.....		60	16																									
Jefferson City ..	11,850																											
October.....		34	15						1		3		1	2			1	1		5		2						6
November.....		43	16		1						1		1				1			2		2						3
December.....		44	31						1		6		1				3	1	4	2	1	2				1		9
Totals.....		121	62																									
Cooper—	20,311																											
October.....		49	8							1		1						1			1							2
November.....		14	13								2		1					1		1	2							5
December.....		44	13						1				1						3	1						1		4
Totals.....		107	34																									
Crawford—	13,576																											
October.....		24	12								2		1								2	2					1	4
November.....		14	11																									3
December.....		34	11	1					1	1	2						1	1		2				1				2
Totals.....			72	34																								

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER, 1916—Continued.**

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhoea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Howell—	21,065																											
October.....		32	13							1							1	1	1	1	1	3					3	
November.....		25	16														1	1	2			1	2				5	
December.....		53	23						1	1	2		1				2	2	2	1								
Totals.....		110	52																									
Iron—	8,563																											
October.....		14	4														1	1	2								1	
November.....		17	7															1	1								1	
December.....		22	9			1			1	1				1				2	1								2	
Totals.....		53	20																									
Jackson—	35,141																											
October.....		74	37							1		3		1	1		6	2				3		4	1	3	11	
November.....		72	26							1		1		1	2		4	4	2			1					8	
December.....		65	54	1							3		7				4	4	4	4		6		1			10	
Totals.....		211	117																									
Kansas City—	248,381																											
October.....		478	347	7						8		30	26	3			31	49	19	7	12	39	1	22	4	4	82	
November.....		469	304	3						3	1	30	4	20	1		25	46	36	6	6	28	3	16	3	7	66	
December.....		492	383	1			1	1	1	9	4	37	5	26	4	1	32	83	36	9	6	30	1	21	6	6	64	
Totals.....		1,439	1,034																									

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BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER, 1916—Continued.

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BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER, 1916—Continued.

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhoea and Enteritis (under 2 years of age).....	Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Hannibal—	18,341																											
October.....		17	22	1						1	1		1					3	1	3							9	
November.....		36	19							1								5									5	
December.....		23	26							1	2	1						3	1	3							6	
Totals.....		76	67																									
Mercer—	12,335																											
October.....		20	34	1						1	2	1						5		1	2						16	
November.....		12	5							1	1							1									2	
December.....		19	6									1						1									2	
Totals.....		51	45																									
Miller—	16,717																											
October.....		23	4																	1							1	
November.....		29	11	1							2							1		1							2	
December.....		29	22	1						3	2							5			2	1						
Totals.....		61	37																									
Mississippi—	14,557																											
October.....		23	16	1					1	1	2							3			1	1					9	
November.....		28	11							1																		
December.....		33	11	1				1										2		1	1						3	
Totals.....		84	38																									

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BIRTHS AND DEATHS REPORTED IN MISSOURI (STILBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER, 1916—Continued.

Counties.	Important causes of death.												
	Other causes.....	Homicides.....	Suicides.....	Accidents.....	The puerperal state.....	Acute Nephritis and Bright's Disease.....	Diarrhoea and Enteritis (under 2 years of age).....	Other diseases of respiratory system.....	Pneumonia, Broncho-pneumonia.....	Diseases of heart and circulatory system.....	Other diseases of the nervous system.....	Acute Anterior Poliomyelitis.....	Epidemic Cerebrospinal Meningitis.....
Pulaski—	2	6	1	1	1	1	2	1	1	2	1	1	1
October.....	1	1	1	1	1	1	1	1	1	1	1	1	1
November.....	1	1	1	1	1	1	1	1	1	1	1	1	1
December.....	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals.....	3	3	3	3	3	3	3	3	3	3	3	3	3
Putnam—	5	3	3	1	1	3	1	1	3	1	2	1	1
October.....	1	1	1	1	1	1	1	1	1	1	1	1	1
November.....	1	1	1	1	1	1	1	1	1	1	1	1	1
December.....	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals.....	3	3	3	3	3	3	3	3	3	3	3	3	3
Ralls—	2	2	2	2	2	2	1	1	6	2	1	1	1
October.....	1	1	1	1	1	1	1	1	1	1	1	1	1
November.....	1	1	1	1	1	1	1	1	1	1	1	1	1
December.....	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals.....	3	3	3	3	3	3	3	3	3	3	3	3	3
Randolph—	3	3	3	3	3	3	1	1	1	1	1	1	1
October.....	1	1	1	1	1	1	1	1	1	1	1	1	1
November.....	1	1	1	1	1	1	1	1	1	1	1	1	1
December.....	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals.....	3	3	3	3	3	3	3	3	3	3	3	3	3
Totals.....	49	16	16	16	16	16	8	8	18	8	8	8	8
Population, 1910.....	11,438	42	28	14	14	84	38	38	84	38	38	38	38
Total deaths during the quarter.....	42	28	14	14	14	84	38	38	84	38	38	38	38
Total births during the quarter.....	11,438	42	28	14	14	84	38	38	84	38	38	38	38
Population, 1910.....	11,438	42	28	14	14	84	38	38	84	38	38	38	38

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER, 1916—Continued.**

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Ste. Genevieve—	10,607																			2								2
October.....		21	10	3						1		1					1											2
November.....		17	11							1		1					2											2
December.....		17	20							1		1					2											5
Totals.....		55	41																									
St. Louis—	82,417																											
October.....		106	83	2					2		31		3				10	5	5		2							9
November.....		124	103								41		3	1			3	9	9	8								9
December.....		120	120	1			2		2		49		3				4	15	14	3	1							1
Totals.....		350	306																									
Saline—	29,448																											
October.....		40	33								6	1	3	1			6	5	1									6
November.....		49	37	1							1	1	2	2			5	4	5									11
December.....		55	20						1		1	1	1				2			2								9
Totals.....		134	90																									
Schuyler—	9,062																											
October.....		12	5										1															1
November.....		11	5								1		1															2
December.....		14	6								1								3									1
Totals.....		37	16																									

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER, 1916—Continued.

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhoea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Taney—	9,134																											
October.....		5	5														1	1										2
November.....		17	5															3										3
December.....		20	5															1										
Totals.....		42	18																									
Texas—	21,458																											
October.....		31	16								1							3		2	1							6
November.....		43	11									1						1			2							4
December.....		38	22	1														4										5
Totals.....		112	49																									
Vernon—	28,827																											
October.....		39	20								2		2				2	3		1								7
November.....		45	30	1							1						2	2										10
December.....		44	42														9	4	5	1								9
Totals.....		128	92																									
Warren—	9,123																											
October.....		10	8														1			1								3
November.....		8	4																		2	1						
December.....		15	9										1				2	3			2							1
Totals.....		33	21																									

